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QUARTERLY REPORT ON DRIFTING BUOYS IN THE NORTH ATLANTIC

By Sue Holton
July 2002

Report No 62

1st April to 30th June 2002

3 8078 0007 1033 7

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25th July 2002

This report has not been published.
Permission to quote from it should be obtained from the
Group Head of Observations Supply.

1. INTRODUCTION

Drifting buoys operated by European countries, the United States, Canada and E.G.O.S. (European Group on Ocean Stations) provide valuable meteorological data in the North Atlantic Ocean. This report is a summary of the performance of these buoys giving information on the number of buoys operating, the accuracy of reported locations and data quality, timeliness and availability. It is compiled by looking at observations received in the Met. Office Meteorological Data Base (Met.D.B.) and by comparisons of observations with background fields from the Met. Office forecast model. Additional information on buoy operations and data quality is extracted from E.G.O.S. Technical Secretariat reports.

2. GENERAL PERFORMANCE

The following few sub-sections describe the general performance of the drifting buoys throughout the quarter.

(a) Location Accuracy

58 out of 64 of the buoys reporting, gave a '% of observations with acceptable positions' greater than 95% (53 out of 60 last quarter).

(b) Data timeliness

(see note 9 of section 6 for definition of terms.)

Timeliness	Last quarter.	This quarter
Very Good	22	25
Good	40	36
Satisfactory	2	3
Poor	0	0
Very poor	0	0
Total no. of buoys	**64**	**64**

c) Data availability

(see note 9 of section 6 for definition of terms.)

Availability	South of 50 deg N		North of 50 deg N	
	Previous Quarter	Present Quarter	Previous Quarter	Present Quarter
Very Good	4	3	12	13
Good	12	8	9	3
Satisfactory	9	18	7	12
Poor	7	4	4	3
Very Poor	0	0	0	0

The total number of buoy days in the quarter was 4746 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 4868) and the number of 'buoy hours' with at least one observation was 94625 (compared with 95988 last quarter). Thus, the mean number of hours per day, for days with at least one observation (averaged over all buoys operating in the area) was 19.94 (last quarter the figure was 19.72).

3. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 22 buoys reporting at the beginning of the period. 24 buoys were operating at the end of the period.

9 buoys were deployed during the period (44767, 44769, 44770, 44772, 62505, 62507, 62711, 63662 and 64560

6 buoys ceased reporting (47556, 62520, 62598, 63536, 63663 and 64552).

South of 50deg N

There were 25 buoys reporting at the beginning of the period. 29 buoys were reporting at the end of the period.

8 buoys were deployed during the period (41579, 41665, 41666, 44504, 44601, 44602, 44768 and 44773).

4 buoys ceased reporting (44612, 44768, 62516 and 62518).

(b) Data Quality - Pressure

Revised RMS Differences

The technique used to assess the quality of pressure data in this report is based on the Revised RMS differences between the observations and the background field from the Global Forecast Model (see note 8 in Explanatory Notes). For buoys south of 50°N the Revised RMS differences should be less than (or equal to) 2.0 hPa and for buoys north of 50°N they should be below (or equal to) 3.0 hPa. The buoys whose revised RMS differences were found to lie outside these limits have had their performances described as 'suspect' and are included in the section below. Examination of the time-series plots (see Annex B) indicates the performances of these buoys :-

41665 - Pressure from this buoy showed a increasing positive bias during the period it was reporting.

44517 – Pressure from this buoy showed a large scatter during the middle of the quarter.

64560 – Pressure from this buoy showed an increasing negative bias until it ceased reporting on 24/05/02

Biases

10 buoys (excluding those mentioned in the previous section) showed pressure biases greater than 0.5 hPa (pressure biases are determined using the mean value for unflagged data from Annex A). Those buoys whose pressure data showed a bias of greater than 0.5 hPa have had their performance described as 'suspect'.

WMO No.	Buoy bias (hPa)	Period of reports
41579	1.0	19/05 – 30/06
41658	-0.7	01/04 – 30/06
41659	0.7	01/04 – 30/06
42533	-0.9	01/04 – 30/06
44723	-0.8	01/04 – 30/06
44764	-0.6	01/04 – 30/06
44770	-0.6	21/05 – 30/06
44775	-0.7	01/04 – 30/06
62503	-0.6	01/04 – 30/06
62512	-0.7	01/04 – 30/06

Summary of Pressure Performance

Pressure Summary	Last Quarter	This Quarter
Acceptable	46	51
Suspect – RMS	10	3
Suspect – Bias	8	10
Total no. of buoys	64	64

4) Air Temperatures

The following table shows the mean and standard deviation of observation minus background differences for air temperatures.

(Note : The calculations below exclude the majority of gross errors. However, gross errors within +/-20 °C of the background value are included. Therefore, in some instances, the figures may be slightly misleading.)

	Air Temperature				Air Temperature		
WMO No.	Mean	St.Dev	No. of Obs	WMO No.	Mean	St. Dev	No. of Obs
44779	0.07	0.96	1257	62598	0.21	0.74	923
63536	0.55	1.08	1344	63662	-0.82	3.10	1203
63663	0.52	3.33	623	64549	0.58	1.26	1682
64553	0.18	1.06	2075				

Summary

No significant **air temperature** bias was indicated. Buoy 63663 (3.33) and 63662 (3.10) both showed significant **standard deviations** for the quarter.

(5) Winds

The following table shows the mean and standard deviation of observation minus background differences for wind speed and direction.

	Wind Speed (kt)			Wind Direction (deg)		
WMO No.	Mean	St. Dev.	No. of Obs	Mean	St. Dev.	No. of Obs
41523	-4.21	8.99	579	-15.07	45.20	199
41647	0.93	3.76	1827	0.14	28.05	1586
41652	1.68	4.87	1582	-5.63	28.35	1671
42533	3.04	11.02	186	3.50	31.13	596
44601	3.36	4.98	1150	7.82	26.22	1139
44602	2.05	4.75	1166	1.14	34.61	1099
62520	3.42	4.88	599	-1.94	22.81	582
62711	1.78	3.68	1778	11.46	34.00	1690

Summary

There was no significant **wind speed** bias, but there was a significant standard deviation for bouy 42533 (11.02). There was also a significant **wind direction** bias for buoy 41523 (-15.07) and 62711 (11.46) for this quarter.

6. EXPLANATORY NOTES:

1. Buoy owners are as follows,

CA	- Canada	P	- Portugal
F	- France	UK	- United Kingdom
D	- Germany	US	- United States
N	- Norway	IC	- Iceland
NL	- Netherlands	EG	- EGOS
IR	- Ireland		

2. Number of observations received is the number received at Bracknell in the Meteorological Data Base (Met.DB). If identical reports are received which have originated at different Collecting Centres, the earliest one received at Bracknell is stored in the Met.DB.

3. An observation with valid Time and Date is one that contains no coding errors in the Date/Time group.

4. An acceptable position for an observation is within a distance d of the last acceptable position where d=vt and,

   v = maximum drift speed = 1/4 knot
   t = time between observations.

5. The percentage of elements present is calculated from the total number of observations received.

6. The delay is (Time of Receipt at Bracknell) - (Time of Observation).

7. The mean number of observations per day is calculated from the total number of observations received divided by the number of days in the period. It therefore includes 'quasi-identical' observations, i.e. those made within a few minutes of one another. For this reason the mean number of hours per day with at least one observation and the % of hour periods without an observation has been included, where an 'hour period' is defined as the period from HH-30 to HH+29 minutes.

8. Mean (OB-BG) is the mean value of (Observation-Background)

Pressure, where the Background is the 6-hour forecast from the Global Forecast Model. RMS (OB-BG) is the Root Mean Square value of (Observation- Background) Pressure differences.

Unflagged data are those data used in model analyses.

Flagged data (i.e. unused observations) are those observations of suspect quality and all observations reported by a buoy at a frequency greater than 5 times every 6 hours, with accepted observations being at least one hour apart. Thus, those buoys which report most frequently have a higher percentage of flagged data.

The Mean calculated over Unflagged Data gives an indication of the instrument bias, since any gross errors have been excluded from the calculation.

The Revised RMS is based on all data except for the few that contain gross errors (as indicated on the time-series graphs - see Annex B).

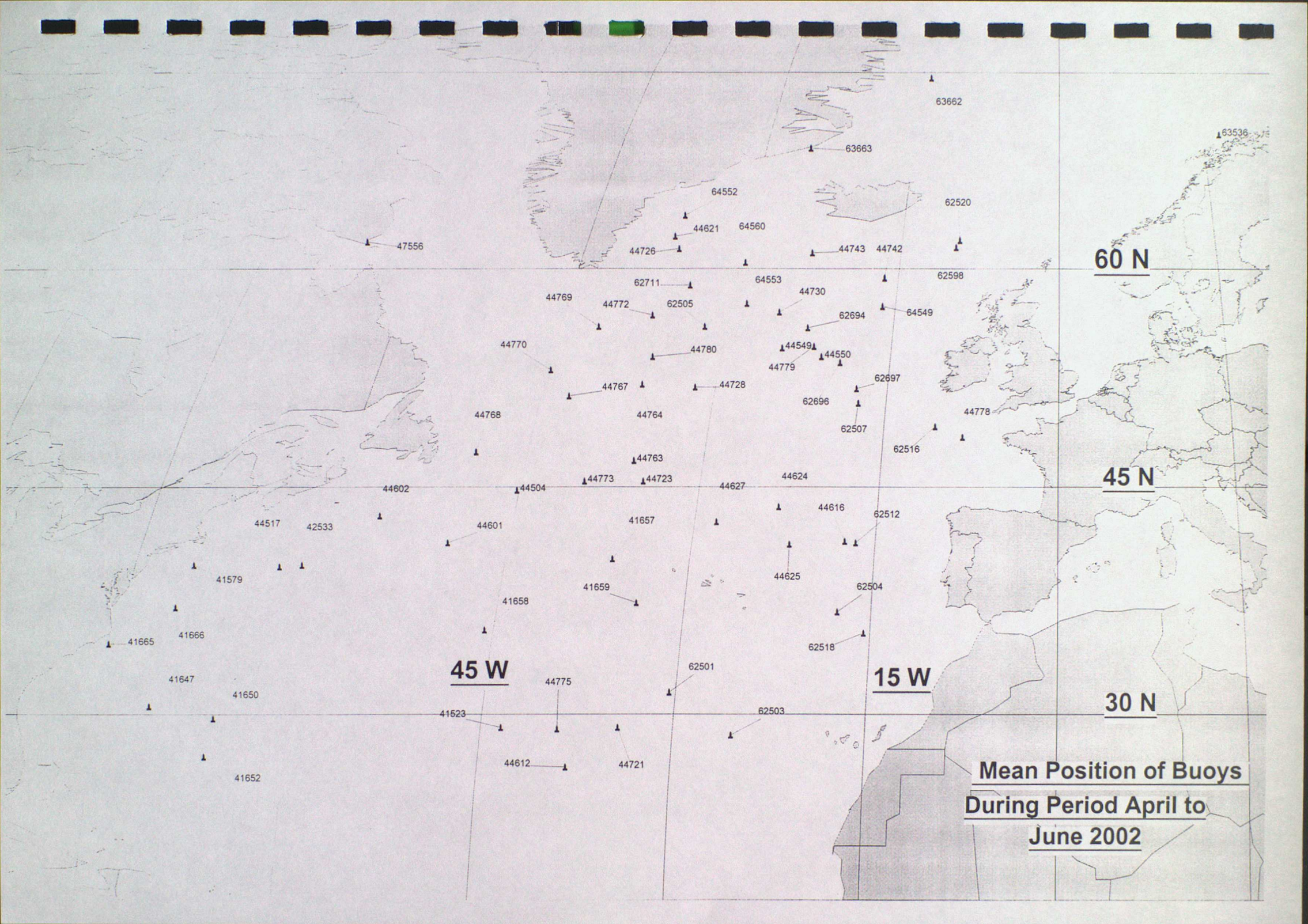
9. The performance categories are defined in the table below.

Performance	Availability (mean no. of obs/day)	Timeliness (median delay in mins)
Very Good	> 35	< 60
Good	25 - 35	60 - 119
Satisfactory	15 - 24	120 - 179
Poor	5 - 14	180 - 239
Very Poor	< 5	> 240

(N.B. WMO requirements state the need for only 4 observations per day from marine stations.)

The pressure quality is assessed from the Revised RMS and the Mean for unflagged data).

Performance	Pressure Quality (in hPa)			
	North of 50 degN		South of 50 degN	
	RMS	MEAN	RMS	MEAN
Acceptable	<= 3.0	<= 0.5	<= 2.0	<= 0.5
Suspect	> 3.0	> 0.5	> 2.0	> 0.5


63662
63536
63663
64552
62520
44621
64560
47556
44726
44743
44742
60 N
62598
62711
64553
44730
44769
44772
62505
62694
64549
44770
44780
44549
44550
44779
62697
44767
44728
62696
44778
44768
44764
62507
62516
44763
44773
44723
44624
45 N
44602
44504
44627
44616
62512
44517
42533
44601
41657
44625
41579
41659
62504
41658
41665
41666
62518
45 W
15 W
62501
41647
44775
41650
30 N
41523
62503
44612
44721
41652
Mean Position of Buoys
During Period April to
June 2002

Annex A - TABLE OF STATISTICS

WMO No./Country	41523/US	41579	41647
Argos Id No.	28840		
Period Within Area	01/04 - 30/06	19/05 - 30/06	01/04 - 30/06
Mean Latitude	29.1	39.8	30.5
Mean Longitude	-43.4	-70.2	-71.1
No. of Obs Received	1286	2177	1886
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	92.7	100.0	99.9
P. Tendency	0.0	99.4	99.9
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	52.3/ 52.1	0.0/ 0.0	99.5/ 99.5
Sea-Surface Temp.	93.8	100.0	99.8
Median delay (min)	33	154	110
Number of days	91	43	91
Mean No. of obs/day	14.1	50.6	20.7
No. of Hours with obs	1022	929	1883
Mean no. of hours/day with obs	11.2	21.6	20.7
% of hour periods without an ob	53.1	8.4	13.7
Mean (Ob-Bg)	0.2	1.0	0.0
RMS (Ob-Bg) **unflagged data**	0.6	1.2	0.6
Mean (Ob-Bg)	0.2	0.9	0.0
RMS (Ob-Bg) **all data**	1.5	2.8	0.6
Revised RMS (Ob-Bg)	O.6	1.1	0.6
% of data flagged	38	62	1
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Very Good	Acceptable
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Good	Acceptable	Good
Comments			

Annex A - cont'd

WMO No./Country	41650/US	41652/US	41657/US
Argos Id No.	7776	7897	27063
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	29.7	27.2	40.2
Mean Longitude	-65.9	-66.2	-36.3
No. of Obs Received	1948	1917	1088
% of obs with Acceptable Position	100.0	100.0	99.9
% of Present			
Pressure	99.9	99.9	99.5
P. Tendency	99.8	99.8	99.4
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	95.7/ 99.2	0.0/ 0.0
Sea-Surface Temp.	99.8	99.8	0.0
Median delay (min)	104	113	112
Number of days	91	91	91
Mean No. of obs/day	21.4	21.1	12.0
No. of Hours with obs	1943	1917	1088
Mean no. of hours/day with obs	21.4	21.1	12.0
% of hour periods without an ob	11.0	12.1	50.0
Mean (Ob-Bg)	0.4	0.0	-0.5
RMS (Ob-Bg) **unflagged data**	0.6	0.6	1.0
Mean (Ob-Bg)	0.4	0.0	-0.4
RMS (Ob-Bg) **all data**	0.6	0.6	2.0
Revised RMS (Ob-Bg)	0.7	0.6	1.1
% of data flagged	1	1	1
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	41658/US	41659/US	41665
Argos Id No.	27064	27065	
Period Within Area	01/04 - 30/06	01/04 - 30/06	19/05 - 30/06
Mean Latitude	35.5	37.3	34.6
Mean Longitude	-45.7	-33.9	-75.4
No. of Obs Received	1920	1985	2076
% of obs with Acceptable Position	100.0	100.0	83.5
% of Present			
Pressure	99.8	99.8	100.0
P. Tendency	99.9	99.5	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.9	99.7	100.0
Median delay (min)	108	100	147
Number of days	91	91	43
Mean No. of obs/day	21.1	21.8	48.3
No. of Hours with obs	1914	1978	928
Mean no. of hours/day with obs	21.0	21.7	21.6
% of hour periods without an ob	12.4	9.4	8.7
Mean (Ob-Bg)	-0.7	0.7	1.6
RMS (Ob-Bg) **unflagged data**	0.9	1.0	2.1
Mean (Ob-Bg)	-0.7	0.7	2.5
RMS (Ob-Bg) **all data**	0.9	1.0	3.6
Revised RMS (Ob-Bg)	0.9	1.0	3.6
% of data flagged	1	1	68
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Very Good
Pressure Quality	Suspect	Suspect	Suspect
Timeliness	Good	Good	Acceptable
Comments			

WMO No./Country	41666	42533	44504
Argos Id No.			
Period Within Area	19/05 - 30/06	01/04 - 30/06	17/05 - 30/06
Mean Latitude	37.0	39.8	44.8
Mean Longitude	-70.8	-61.4	-45.2
No. of Obs Received	2272	2075	600
% of obs with Acceptable Position	99.2	100.0	100.0
% of Present			
Pressure	100.0	100.0	100.0
P. Tendency	99.9	99.8	99.3
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	31.8/ 53.6	0.0/ 0.0
Sea-Surface Temp.	100.0	99.8	99.5
Median delay (min)	158	106	57
Number of days	43	91	45
Mean No. of obs/day	52.8	22.8	13.3
No. of Hours with obs	955	1916	583
Mean no. of hours/day with obs	22.2	21.1	13.0
% of hour periods without an ob	5.7	12.3	45.4
Mean (Ob-Bg)	0.0	-0.9	-0.3
RMS (Ob-Bg)	0.7	1.1	1.0
unflagged data			
Mean (Ob-Bg)	0.0	-0.9	-0.3
RMS (Ob-Bg)	0.7	1.3	1.1
all data			
Revised RMS (Ob-Bg)	0.7	1.3	1.1
% of data flagged	63	9	5
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Acceptable	Poor
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Acceptable	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44517/US	44549/UK	44550/UK
Argos Id No.	28867	22648	23703
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	39.7	54.5	53.9
Mean Longitude	-63.2	-24.7	-21.1
No. of Obs Received	1173	3661	3616
% of obs with Acceptable Position	99.7	99.0	98.3
% of Present			
Pressure	99.7	99.9	99.8
P. Tendency	99.7	99.7	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.7	99.8	99.8
Median delay (min)	57	54	52
Number of days	91	91	91
Mean No. of obs/day	12.9	40.2	39.7
No. of Hours with obs	1172	2060	2065
Mean no. of hours/day with obs	12.9	22.6	22.7
% of hour periods without an ob	46.3	5.7	5.4
Mean (Ob-Bg)	-0.3	-0.4	-0.3
RMS (Ob-Bg) **unflagged data**	1.0	1.1	0.9
Mean (Ob-Bg)	-0.3	-0.4	-0.2
RMS (Ob-Bg) **all data**	4.0	2.8	1.1
Revised RMS (Ob-Bg)	4.0	1.3	1.0
% of data flagged	0	44	43
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Very Good	Very Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

WMO No./Country	44601/F	44602/F	44612/UK
Argos Id No.	32791	32792	27619
Period Within Area	21/04 - 30/06	21/04 - 30/06	01/04 - 29/06
Mean Latitude	41.3	43.1	26.5
Mean Longitude	-50.0	-56.1	-38.1
No. of Obs Received	1232	1248	1521
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.4	99.8	99.9
P. Tendency	98.5	99.4	96.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	98.5/ 98.7	98.9/ 98.7	0.0/ 0.0
Sea-Surface Temp.	99.0	99.7	97.8
Median delay (min)	81	71	78
Number of days	71	71	90
Mean No. of obs/day	17.4	17.6	16.9
No. of Hours with obs	1203	1223	1510
Mean no. of hours/day with obs	16.9	17.2	16.8
% of hour periods without an ob	28.4	27.2	29.8
Mean (Ob-Bg)	-0.2	-0.2	-0.4
RMS (Ob-Bg) **unflagged data**	0.7	0.8	0.6
Mean (Ob-Bg)	-0.3	-0.4	-0.4
RMS (Ob-Bg) **all data**	3.1	3.1	0.6
Revised RMS (Ob-Bg)	0.7	1.1	0.6
% of data flagged	2	2	1
Operating at end of period	YES	YES	NO
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44616/UK	44621/UK	44624/UK
Argos Id No.	17149	17150	17151
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	41.4	62.4	43.7
Mean Longitude	-17.5	-36.8	-23.2
No. of Obs Received	2047	4835	2106
% of obs with Acceptable Position	100.0	98.4	100.0
% of Present			
Pressure	99.7	100.0	99.9
P. Tendency	99.2	99.9	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.5	99.9	99.7
Median delay (min)	75	41	74
Number of days	91	91	91
Mean No. of obs/day	22.5	53.1	23.1
No. of Hours with obs	2030	2147	2042
Mean no. of hours/day with obs	22.3	23.6	22.4
% of hour periods without an ob	7.0	1.7	6.5
Mean (Ob-Bg)	-0.1	0.2	0.2
RMS (Ob-Bg) **unflagged data**	0.6	1.0	0.7
Mean (Ob-Bg)	-0.1	0.1	0.2
RMS (Ob-Bg) **all data**	0.6	1.5	1.6
Revised RMS (Ob-Bg)	0.6	1.5	0.7
% of data flagged	1	57	3
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Very Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Good
Comments			

WMO No./Country	44625/UK	44627/NL	44721/UK
Argos Id No.	17153	13698	18702
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	41.2	42.7	29.1
Mean Longitude	-22.0	-28.2	-34.3
No. of Obs Received	2606	1834	2663
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.9	99.8	99.9
P. Tendency	99.9	99.0	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.8	99.7	99.9
Median delay (min)	84	95	94
Number of days	91	91	91
Mean No. of obs/day	28.6	20.2	29.3
No. of Hours with obs	2084	1829	2107
Mean no. of hours/day with obs	22.9	20.1	23.2
% of hour periods without an ob	4.6	16.1	3.5
Mean (Ob-Bg)	0.0	-0.4	-0.2
RMS (Ob-Bg) **unflagged data**	0.6	0.8	0.5
Mean (Ob-Bg)	0.0	-0.3	-0.1
RMS (Ob-Bg) **all data**	0.6	1.9	0.5
Revised RMS (Ob-Bg)	0.6	0.9	0.5
% of data flagged	20	1	21
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Acceptable	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44723/UK	44726/UK	44728/UK
Argos Id No.	21562	23460	23553
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	45.4	61.5	51.8
Mean Longitude	-34.8	-36.1	-31.8
No. of Obs Received	2076	4822	4561
% of obs with Acceptable Position	100.0	98.6	99.0
% of Present			
Pressure	100.0	99.9	100.0
P. Tendency	99.7	99.9	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.8	100.0	0.0
Median delay (min)	65	42	59.5
Number of days	91	91	91
Mean No. of obs/day	22.8	53.0	50.1
No. of Hours with obs	2052	2145	2125
Mean no. of hours/day with obs	22.5	23.6	23.4
% of hour periods without an ob	6.0	1.8	2.6
Mean (Ob-Bg)	0.3	0.0	-0.8
RMS (Ob-Bg) **unflagged data**	0.9	0.9	1.2
Mean (Ob-Bg)	0.3	0.0	-0.7
RMS (Ob-Bg) **all data**	1.3	0.9	1.3
Revised RMS (Ob-Bg)	1.3	0.9	1.3
% of data flagged	2	56	56
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44730/UK	44742//UK	44743/D
Argos Id No.	23856	21667	4270
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	57.0	59.4	61.2
Mean Longitude	-25.5	-16.3	-23.4
No. of Obs Received	3968	4075	3687
% of obs with Acceptable Position	98.2	98.2	99.9
% of Present			
Pressure	99.8	100.0	97.4
P. Tendency	99.7	99.9	95.1
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.9	99.8	0.0
Median delay (min)	49	45	14
Number of days	91	91	91
Mean No. of obs/day	43.6	44.8	40.5
No. of Hours with obs	2094	2085	1651
Mean no. of hours/day with obs	23.0	22.9	18.1
% of hour periods without an ob	4.1	4.5	24.3
Mean (Ob-Bg)	-0.1	-0.2	-0.3
RMS (Ob-Bg) **unflagged data**	1.0	0.8	0.9
Mean (Ob-Bg)	-0.1	-0.2	-0.3
RMS (Ob-Bg) **all data**	1.2	0.8	2.2
Revised RMS (Ob-Bg)	1.1	0.7	0.9
% of data flagged	48	49	64
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

WMO No./Country	44763/UK	44764/UK	44767/UK
Argos Id No.	17574	23913	16977
Period Within Area	01/04 - 30/06	01/04 - 30/06	11/04 - 30/06
Mean Latitude	46.8	52.0	51.2
Mean Longitude	-35.9	-36.5	-42.6
No. of Obs Received	2350	2071	1977
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.7	99.8	99.8
P. Tendency	99.5	99.6	99.6
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.6	99.8	99.7
Median delay (min)	71	60	100
Number of days	91	91	81
Mean No. of obs/day	25.8	22.8	24.4
No. of Hours with obs	2069	2043	1696
Mean no. of hours/day with obs	22.7	22.5	20.9
% of hour periods without an ob	5.3	6.5	12.2
Mean (Ob-Bg)	-0.2	-0.6	-0.2
RMS (Ob-Bg)	1.0	1.1	0.8
unflagged data			
Mean (Ob-Bg)	-0.1	-0.6	-0.2
RMS (Ob-Bg)	1.6	1.2	1.1
all data			
Revised RMS (Ob-Bg)	1.2	1.2	1.1
% of data flagged	12	2	17
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Acceptable	Acceptable
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Good	Good	Good
Comments			

WMO No./Country	44768/NL	44769/UK	44770/UK
Argos Id No.	29755	13694	16976
Period Within Area	24/04 - 03/06	20/05 - 30/06	21/05 - 30/06
Mean Latitude	47.4	56.0	53.0
Mean Longitude	-49.4	-41.6	-44.8
No. of Obs Received	851	937	894
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.9	100.0	99.9
P. Tendency	99.8	99.5	99.9
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	46.7	99.8	99.9
Median delay (min)	81	53	80
Number of days	41	42	41
Mean No. of obs/day	20.8	22.3	21.8
No. of Hours with obs	850	915	875
Mean no. of hours/day with obs	20.7	21.8	21.3
% of hour periods without an ob	11.7	7.1	11.0
Mean (Ob-Bg)	-0.1	-0.4	-0.6
RMS (Ob-Bg) **unflagged data**	0.7	0.8	1.0
Mean (Ob-Bg)	-0.1	-0.4	-0.6
RMS (Ob-Bg) **all data**	0.8	1.8	1.0
Revised RMS (Ob-Bg)	0.8	0.9	1.0
% of data flagged	1	2	2
Operating at end of period	NO	YES	YES
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44772/UK	44773/UK	44775/UK
Argos Id No.	16978	21468	25372
Period Within Area	21/05 - 30/06	28/05 - 30/06	01/04 - 30/06
Mean Latitude	56.8	45.4	29.0
Mean Longitude	-37.0	-39.7	-39.0
No. of Obs Received	893	779	2148
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.7	100.0	99.9
P. Tendency	99.3	99.9	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.7	99.7	99.8
Median delay (min)	79	78	72
Number of days	41	34	91
Mean No. of obs/day	21.8	22.9	23.6
No. of Hours with obs	875	759	2120
Mean no. of hours/day with obs	21.3	22.3	23.3
% of hour periods without an ob	11.0	6.3	2.9
Mean (Ob-Bg)	-0.3	0.1	-0.7
RMS (Ob-Bg) **unflagged data**	0.9	0.9	0.8
Mean (Ob-Bg)	-0.3	0.2	-0.7
RMS (Ob-Bg) **all data**	1.3	1.0	0.8
Revised RMS (Ob-Bg)	1.3	1.0	0.8
% of data flagged	2	2	2
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Good	Good	Good
Comments			

WMO No./Country	44778/UK	44779/D	44780/IR
Argos Id No.	25370	6669	1153
Period Within Area	01/04 - 30/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	48.4	54.6	53.9
Mean Longitude	-8.2	-21.9	-36.1
No. of Obs Received	2932	1389	1746
% of obs with Acceptable Position	98.2	99.1	100.0
% of Present			
Pressure	99.7	93.9	84.9
P. Tendency	99.4	90.9	79.4
Air Temperature	0.0	92.3	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.6	89.4	0.0
Median delay (min)	65	13	23
Number of days	91	91	91
Mean No. of obs/day	32.2	15.3	19.2
No. of Hours with obs	1981	953	1332
Mean no. of hours/day with obs	21.8	10.5	14.6
% of hour periods without an ob	9.3	56.2	39.0
Mean (Ob-Bg)	-0.2	-0.5	-0.4
RMS (Ob-Bg) **unflagged data**	0.7	1.0	0.9
Mean (Ob-Bg)	-0.2	-0.5	-0.4
RMS (Ob-Bg) **all data**	1.2	1.6	0.9
Revised RMS (Ob-Bg)	0.7	1.1	0.9
% of data flagged	33	41	34
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	47556/CA	62501/F	62503/F
Argos Id No.	1106	7139	17926
Period Within Area	01/04 - 18/06	01/04 - 30/06	01/04 - 30/06
Mean Latitude	62.0	31.4	28.6
Mean Longitude	-66.0	-30.5	-25.4
No. of Obs Received	801	2070	2655
% of obs with Acceptable Position	96.5	100.0	100.0
% of Present			
Pressure	100.0	100.0	99.9
P. Tendency	0.0	99.8	99.7
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	0.0	100.0	99.7
Median delay (min)	12	86	95
Number of days	79	91	91
Mean No. of obs/day	10.1	22.7	29.2
No. of Hours with obs	704	2049	2116
Mean no. of hours/day with obs	8.9	22.5	23.3
% of hour periods without an ob	62.5	6.2	3.1
Mean (Ob-Bg)	0.4	0.3	-0.6
RMS (Ob-Bg) **unflagged data**	1.1	0.6	0.8
Mean (Ob-Bg)	-2.8	0.3	-0.7
RMS (Ob-Bg) **all data**	18.0	0.6	1.3
Revised RMS (Ob-Bg)	1.2	0.6	0.8
% of data flagged	26	1	20
Operating at end of period	NO	YES	YES
Performance			
Availability	Poor	Acceptable	Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Good	Good
Comments			

WMO No./Country	62504/F	62505/F	62507/F
Argos Id No.	17928	17188	28695
Period Within Area	01/04 - 30/06	17/06 - 30/06	13/06 - 30/06
Mean Latitude	36.7	56.0	50.7
Mean Longitude	-17.7	-32.0	-17.4
No. of Obs Received	2241	320	391
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present			
Pressure	99.9	99.4	99.7
P. Tendency	99.5	99.1	99.5
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.8	100.0	99.7
Median delay (min)	96	58.5	69
Number of days	91	14	18
Mean No. of obs/day	24.6	22.9	21.7
No. of Hours with obs	1987	307	381
Mean no. of hours/day with obs	21.8	21.9	21.2
% of hour periods without an ob	9.0	8.1	8.6
Mean (Ob-Bg)	0.1	-0.4	-0.5
RMS (Ob-Bg) **unflagged data**	0.6	0.7	1.0
Mean (Ob-Bg)	0.1	-0.3	-0.5
RMS (Ob-Bg) **all data**	0.5	0.8	1.0
Revised RMS (Ob-Bg)	0.5	0.8	1.0
% of data flagged	12	5	2
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Acceptable	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	62512/F	62516/F	62518/F
Argos Id No.	28692	28696	28697
Period Within Area	01/04 - 30/06	01/04 - 22/04	01/04 - 24/05
Mean Latitude	41.3	49.1	35.3
Mean Longitude	-16.6	-10.6	-15.5
No. of Obs Received	2998	718	1642
% of obs with Acceptable Position	97.3	92.6	95.2
% of Present			
Pressure	99.9	99.6	100.0
P. Tendency	99.7	99.3	99.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.8	96.9	99.6
Median delay (min)	81	70	73
Number of days	91	22	54
Mean No. of obs/day	32.9	32.6	30.4
No. of Hours with obs	2015	483	1221
Mean no. of hours/day with obs	22.1	22.0	22.6
% of hour periods without an ob	7.7	6.9	4.4
Mean (Ob-Bg)	-0.7	-0.5	-0.3
RMS (Ob-Bg) **unflagged data**	1.1	0.8	0.7
Mean (Ob-Bg)	-0.7	-0.5	-0.3
RMS (Ob-Bg) **all data**	1.2	0.9	0.7
Revised RMS (Ob-Bg)	1.2	0.9	0.7
% of data flagged	34	34	26
Operating at end of period	YES	NO	NO
Performance			
Availability	Good	Good	Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

WMO No./Country	62520/F	62598/F	62694/UK
Argos Id No.	32783	2294	17577
Period Within Area	01/04 - 06/05	01/04 - 08/05	01/04 - 30/06
Mean Latitude	62.1	61.6	55.9
Mean Longitude	-9.5	-9.8	-22.7
No. of Obs Received	649	1030	3776
% of obs with Acceptable Position	100.0	99.4	98.4
% of Present			
Pressure	99.5	93.5	99.9
P. Tendency	99.4	89.0	99.6
Air Temperature	0.0	91.7	0.0
Wind Speed/Dir	99.1/ 95.8	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	99.8	89.1	0.0
Median delay (min)	59	13	53
Number of days	36	38	91
Mean No. of obs/day	18.0	27.1	41.5
No. of Hours with obs	645	561	1905
Mean no. of hours/day with obs	17.9	14.8	20.9
% of hour periods without an ob	23.8	37.0	12.8
Mean (Ob-Bg)	-0.2	-0.4	-0.1
RMS (Ob-Bg) **unflagged data**	0.8	0.9	0.9
Mean (Ob-Bg)	-0.2	-0.4	-6.8
RMS (Ob-Bg) **all data**	0.8	1.0	31.9
Revised RMS (Ob-Bg)	0.8	1.0	1.2
% of data flagged	1	55	54
Operating at end of period	NO	NO	YES
Performance			
Availability	Acceptable	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	62696/UK	62697/UK	62711/UK
Argos Id No.	18222	19894	21375
Period Within Area	01/04 - 30/06	01/04 - 30/06	08/04 - 30/06
Mean Latitude	53.5	51.7	58.9
Mean Longitude	-19.4	-17.7	-34.2
No. of Obs Received	3498	3335	1841
% of obs with Acceptable Position	98.0	98.3	100.0
% of Present			
Pressure	99.7	99.9	99.8
P. Tendency	99.4	99.5	99.5
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	99.4/ 99.2
Sea-Surface Temp.	99.8	99.8	99.8
Median delay (min)	56	56	66
Number of days	91	91	84
Mean No. of obs/day	38.4	36.6	21.9
No. of Hours with obs	2045	2043	1751
Mean no. of hours/day with obs	22.5	22.5	20.8
% of hour periods without an ob	6.4	6.5	12.1
Mean (Ob-Bg)	-0.5	-0.4	0.0
RMS (Ob-Bg) **unflagged data**	1.1	1.1	0.7
Mean (Ob-Bg)	-0.4	-0.3	0.1
RMS (Ob-Bg) **all data**	1.6	1.5	1.1
Revised RMS (Ob-Bg)	1.2	1.3	0.8
% of data flagged	42	39	5
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Very Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Good
Comments			

WMO No./Country	63536/N	63662	63663
Argos Id No.	3679		
Period Within Area	01/04 - 17/05	04/04 - 30/06	01/04 - 01/06
Mean Latitude	70.0	74.5	68.9
Mean Longitude	16.7	-14.1	-25.5
No. of Obs Received	1517	1285	686
% of obs with Acceptable Position	100.0	100.0	99.7
% of Present			
Pressure	91.4	83.0	96.4
P. Tendency	25.0	0.0	0.0
Air Temperature	90.6	97.1	96.5
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	69.0	0.0	0.0
Median delay (min)	25	70	71
Number of days	47	88	62
Mean No. of obs/day	32.3	14.6	11.1
No. of Hours with obs	943	1276	682
Mean no. of hours/day with obs	20.1	14.5	11.0
% of hour periods without an ob	16.3	38.9	53.9
Mean (Ob-Bg)	-0.3	0.1	0.2
RMS (Ob-Bg) **unflagged data**	0.8	0.9	1.0
Mean (Ob-Bg)	-0.3	0.3	0.4
RMS (Ob-Bg) **all data**	0.8	2.5	2.2
Revised RMS (Ob-Bg)	0.8	0.9	1.1
% of data flagged	48	2	2
Operating at end of period	NO	YES	NO
Performance			
Availability	Good	Poor	Poor
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Good	Good
Comments			

Annex A - cont'd

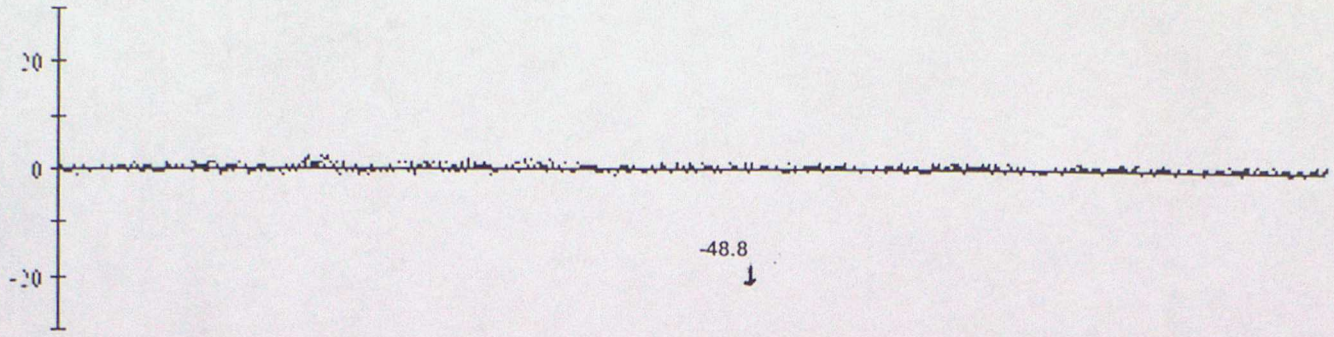
WMO No./Country	64549/NO	64552/UK	64553/IR
Argos Id No.	3678	21104	3038
Period Within Area	01/04 - 30/06	01/04 - 27/04	01/04 - 30/06
Mean Latitude	57.4	63.9	57.6
Mean Longitude	-16.2	-36.4	-28.6
No. of Obs Received	3445	1250	2334
% of obs with Acceptable Position	96.4	97.8	100.0
% of Present			
Pressure	70.7	100.0	91.5
P. Tendency	23.6	99.8	87.1
Air Temperature	49.4	0.0	90.6
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	79.7	99.8	66.6
Median delay (min)	19	44.5	22
Number of days	91	27	91
Mean No. of obs/day	37.9	46.3	25.6
No. of Hours with obs	1534	619	1549
Mean no. of hours/day with obs	16.9	22.9	17.0
% of hour periods without an ob	29.6	3.0	28.9
Mean (Ob-Bg)	-0.5	-0.3	-0.5
RMS (Ob-Bg) **unflagged data**	1.5	1.0	0.9
Mean (Ob-Bg)	-0.5	-0.3	-0.5
RMS (Ob-Bg) **all data**	3.8	1.1	0.9
Revised RMS (Ob-Bg)	1.6	1.1	0.9
% of data flagged	62	51	43
Operating at end of period	YES	NO	YES
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

WMO No./Country	64560/NL		
Argos Id No.	29753		
Period Within Area	22/04 - 24/05		
Mean Latitude Mean Longitude	60.5 -29.5		
No. of Obs Received	661		
% of obs with Acceptable Position	100.0		
% of Present Pressure P. Tendency Air Temperature Wind Speed/Dir Sea-Surface Temp.	 99.8 99.4 0.0 0.0/ 0.0 90.3		
Median delay (min)	75		
Number of days	33		
Mean No. of obs/day	20.0		
No. of Hours with obs	661		
Mean no. of hours/day with obs	20.0		
% of hour periods without an ob	15.0		
Mean (Ob-Bg) RMS (Ob-Bg) **unflagged data**	-0.4 1.7		
Mean (Ob-Bg) RMS (Ob-Bg) **all data**	-3.5 7.1		
Revised RMS (Ob-Bg)	7.1		
% of data flagged	26		
Operating at end of period	NO		
Performance Availability Pressure Quality Timeliness	 Acceptable Suspect Good		
Comments			

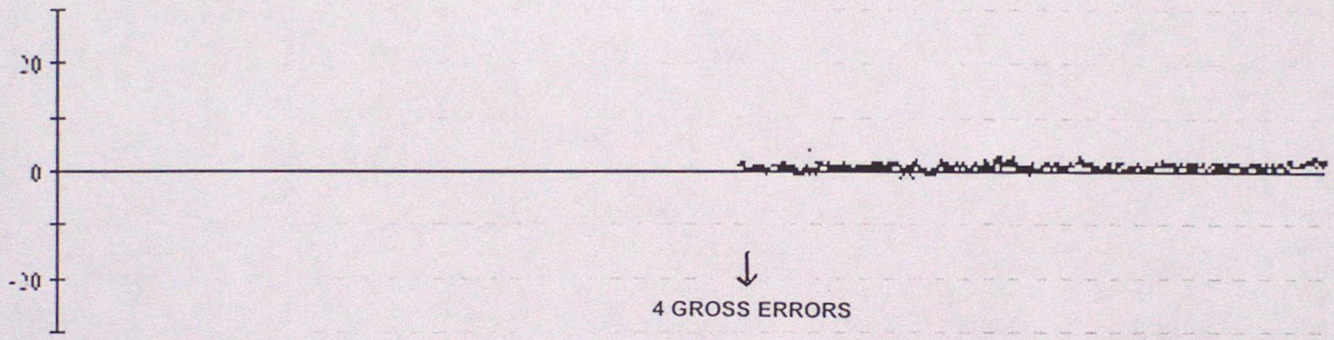
ANNEX B - TIME SERIES PLOTS OF PRESSURE

Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

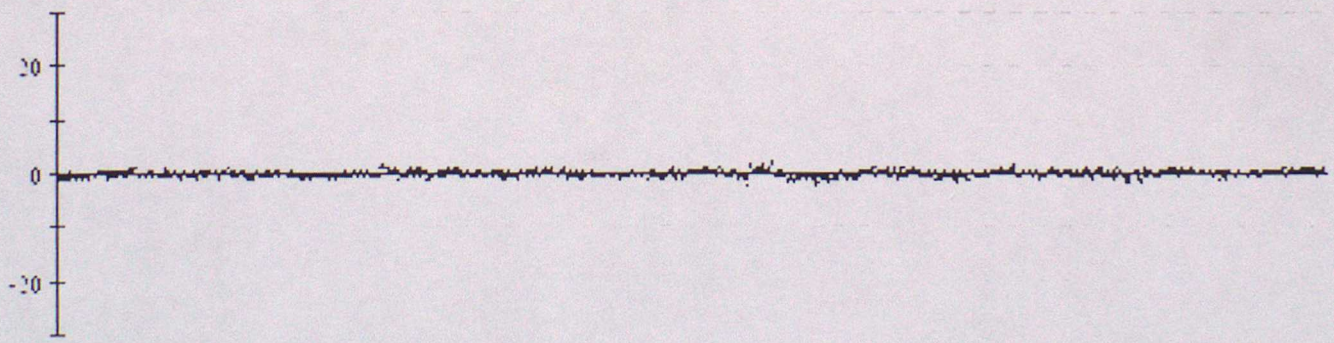
41523 Pressure



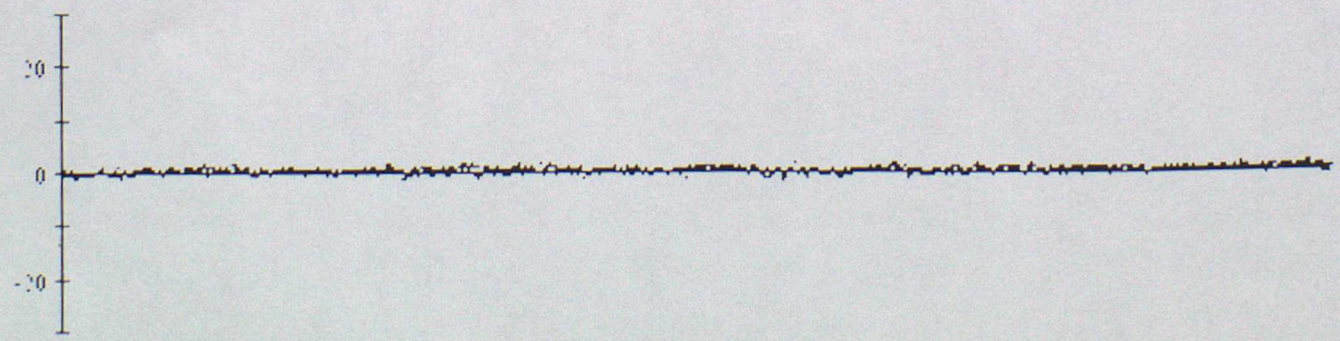
41579 Pressure



41647 Pressure

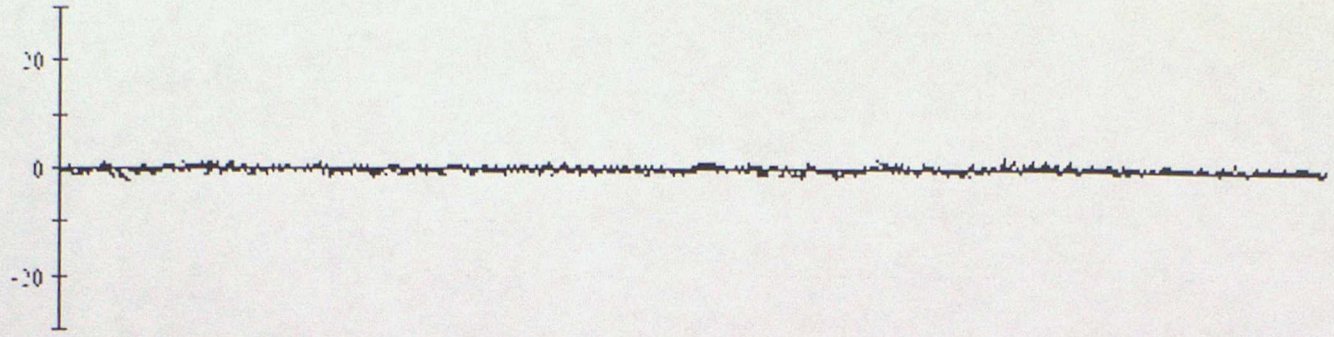


41650 Pressure

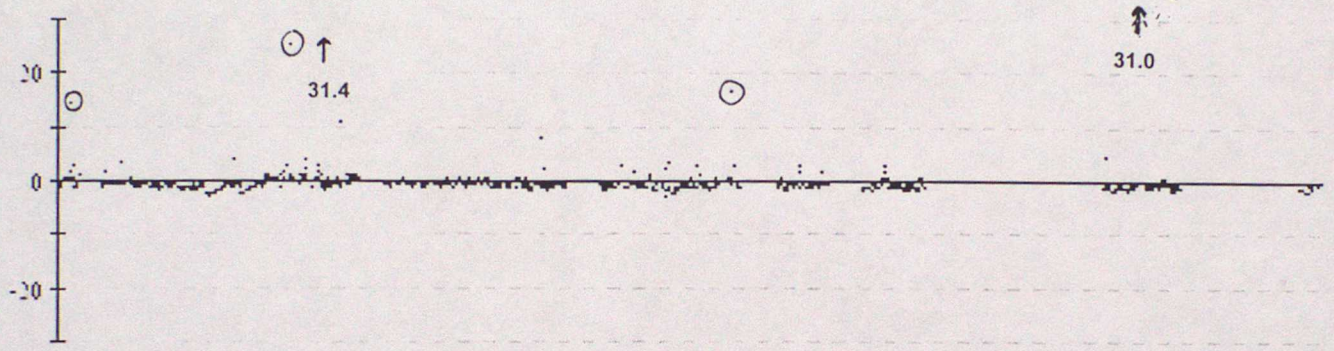


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

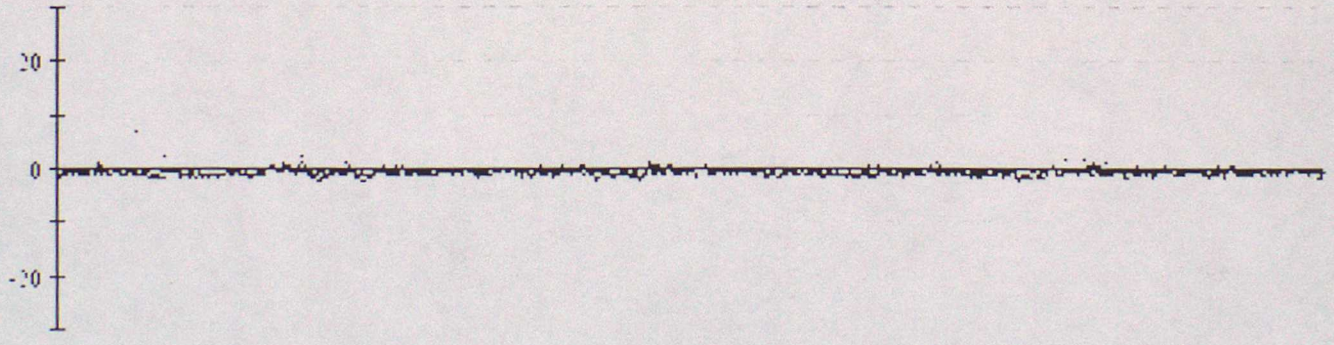
41652 Pressure



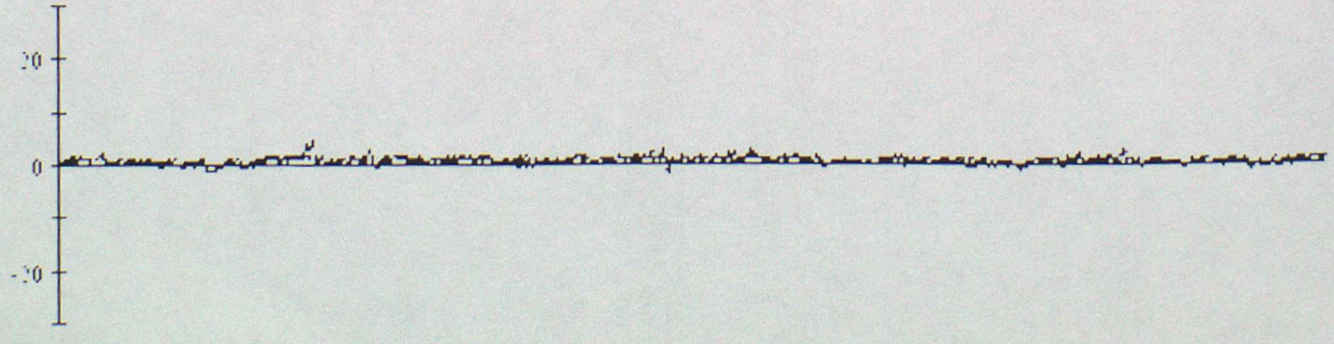
41657 Pressure



41658 Pressure

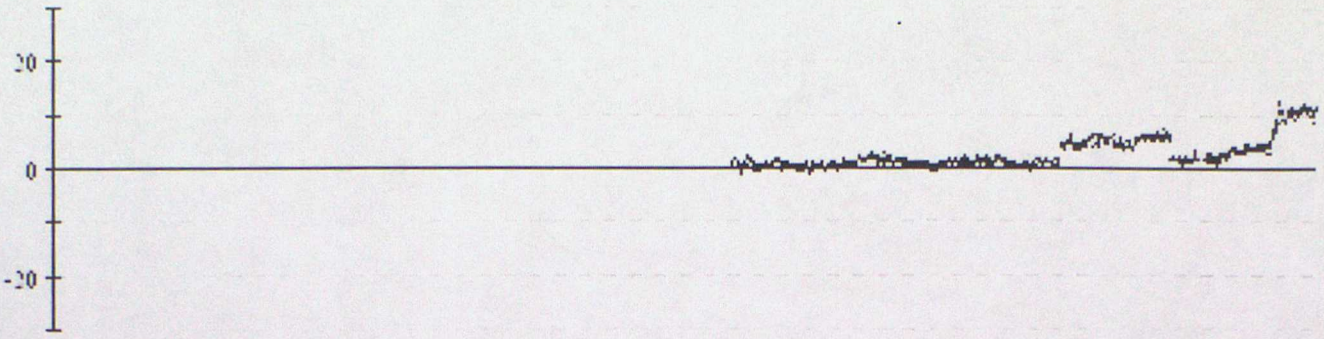


41659 Pressure

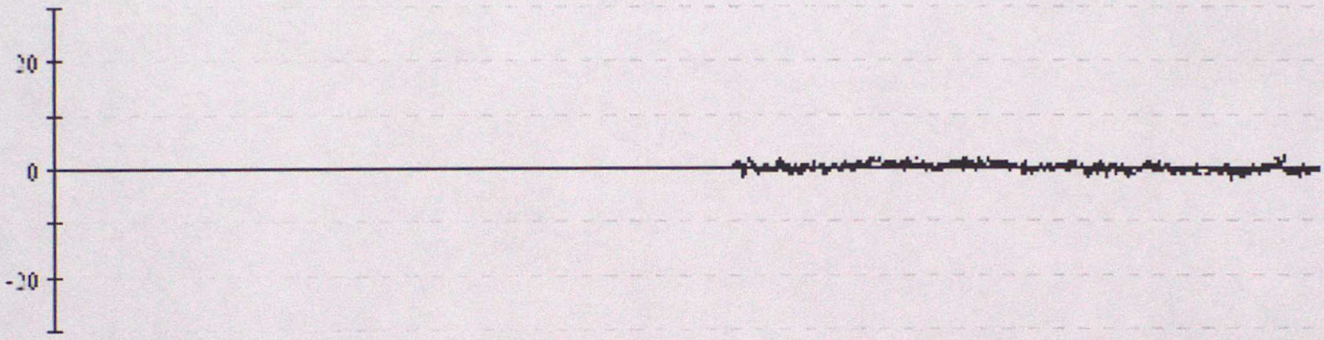


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

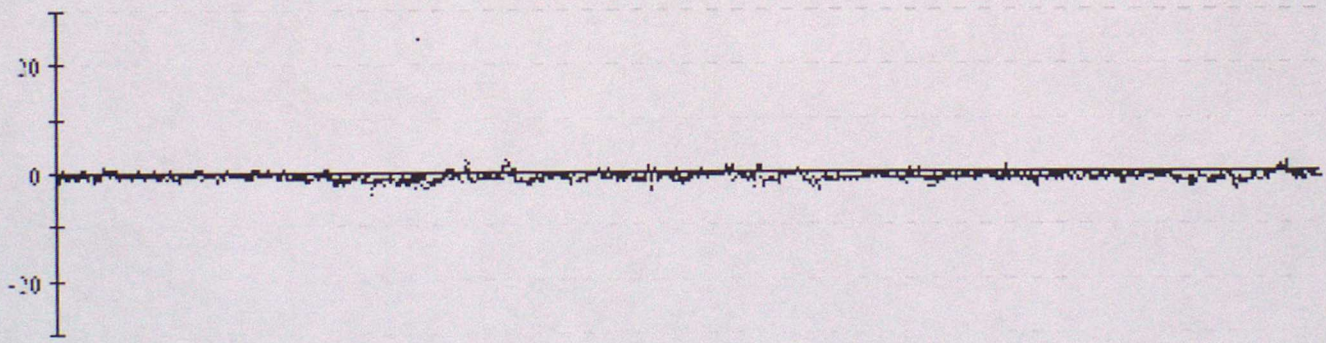
41665 Pressure



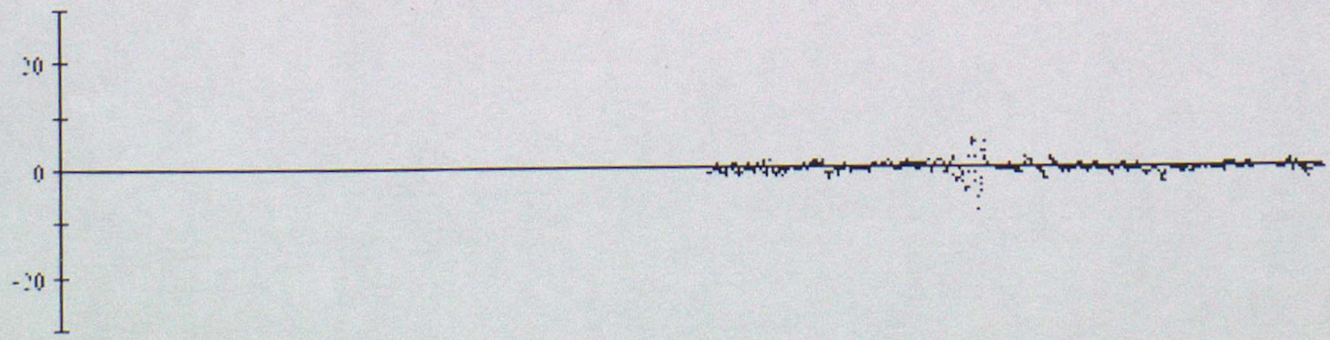
41666 Pressure



42533 Pressure

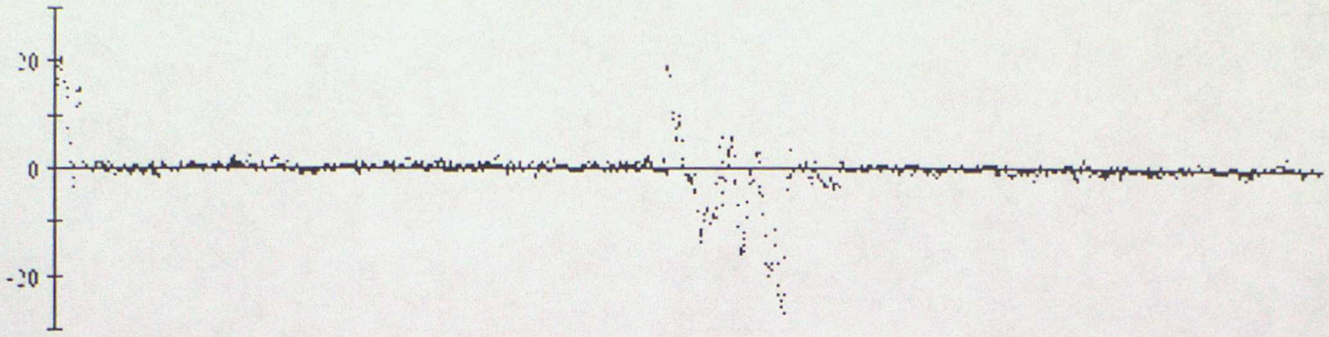


44504 Pressure

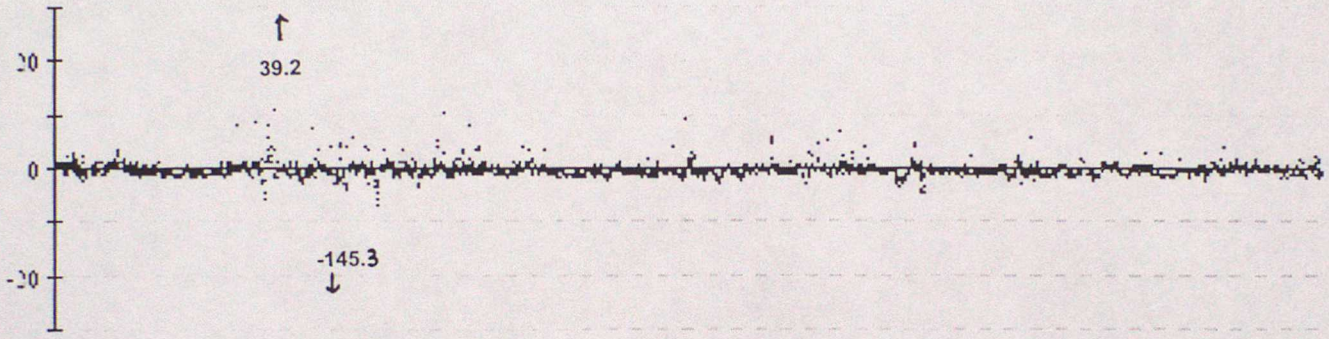


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

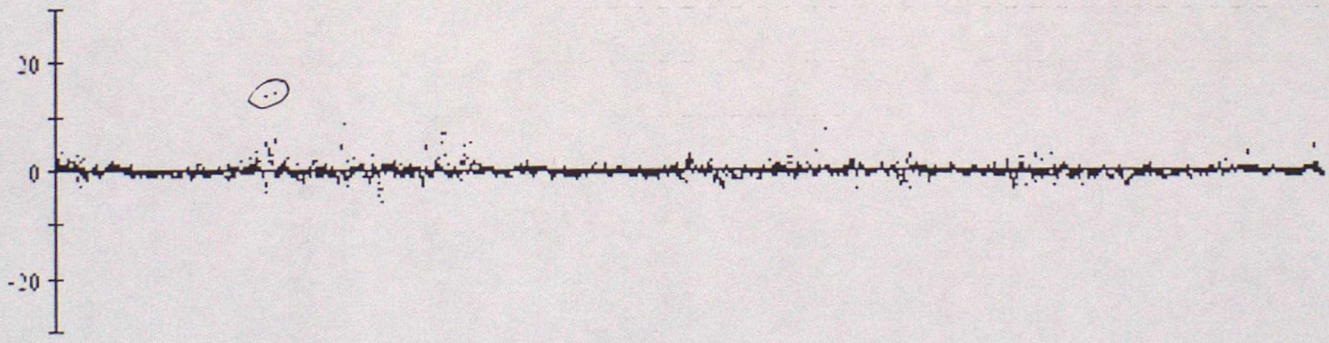
44517 Pressure



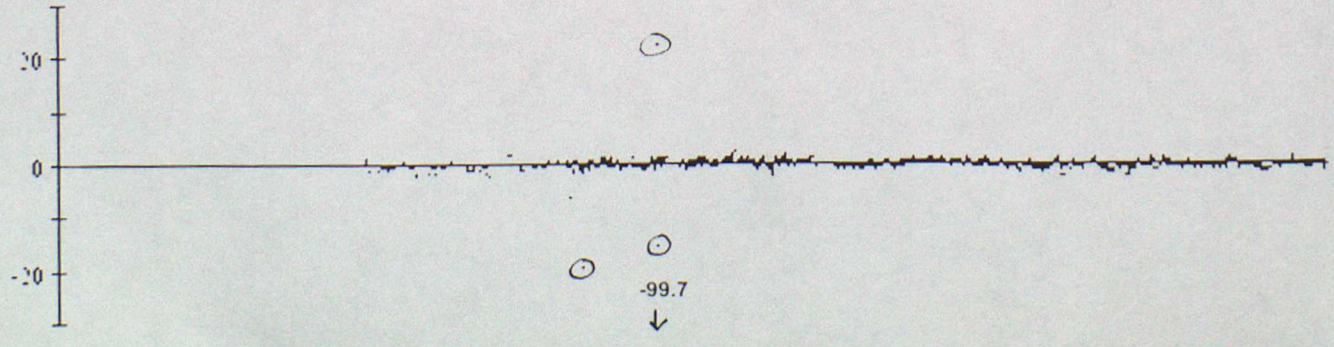
44549 Pressure



44550 Pressure

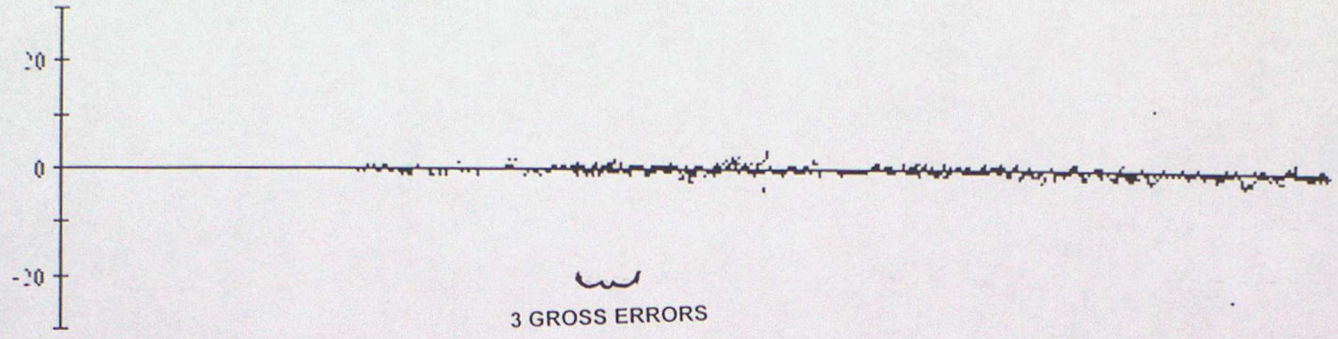


44601 Pressure

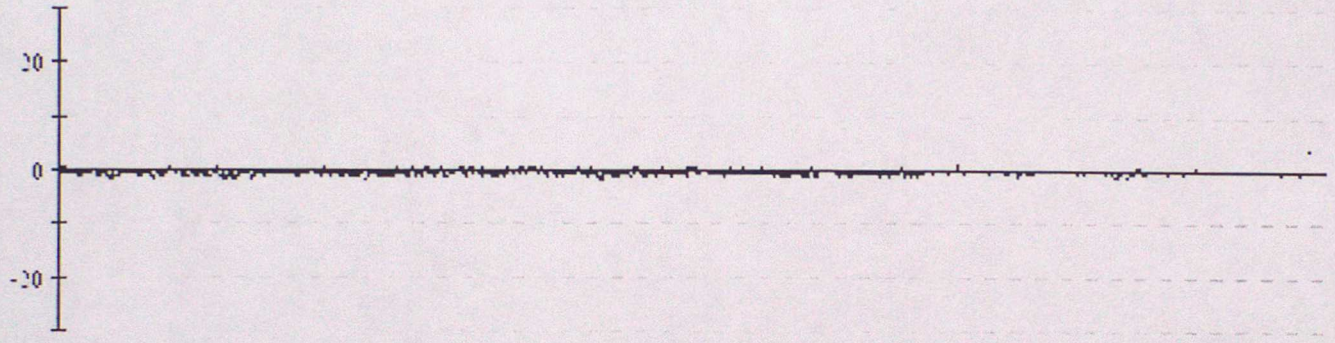


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

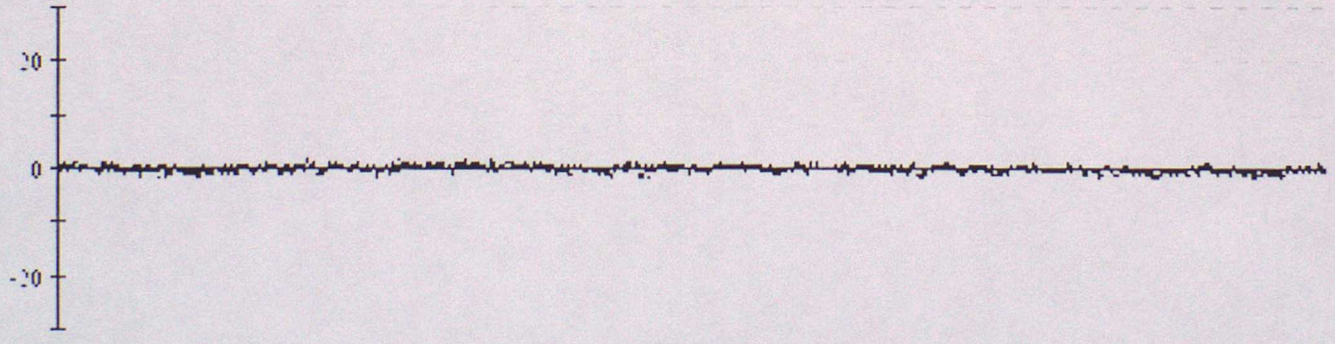
44602 Pressure



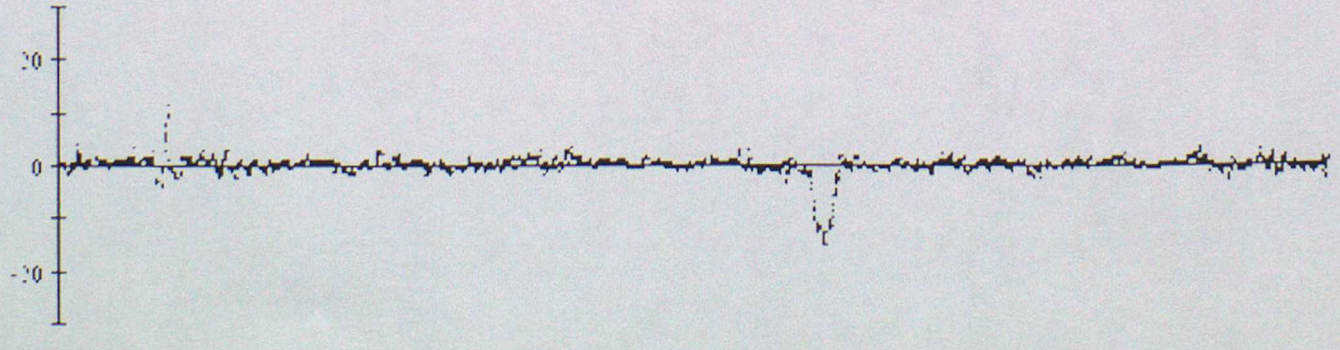
44612 Pressure



44616 Pressure

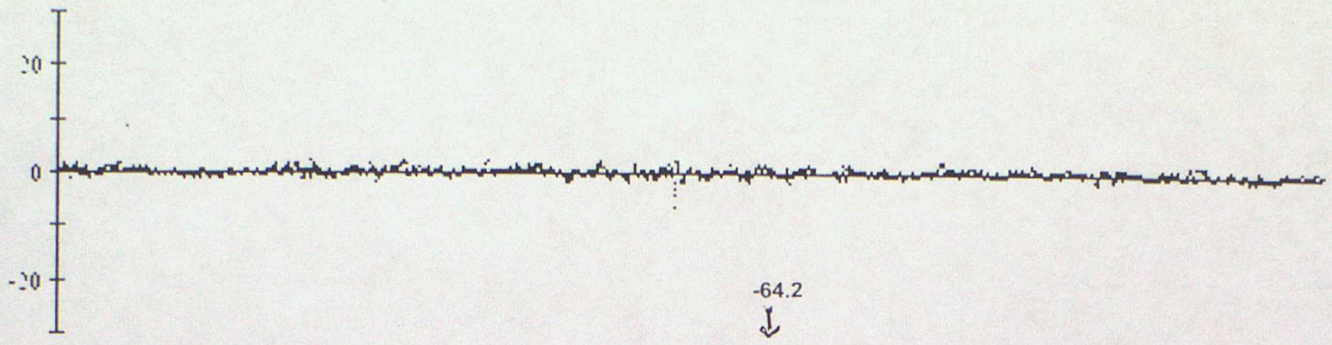


44621 Pressure

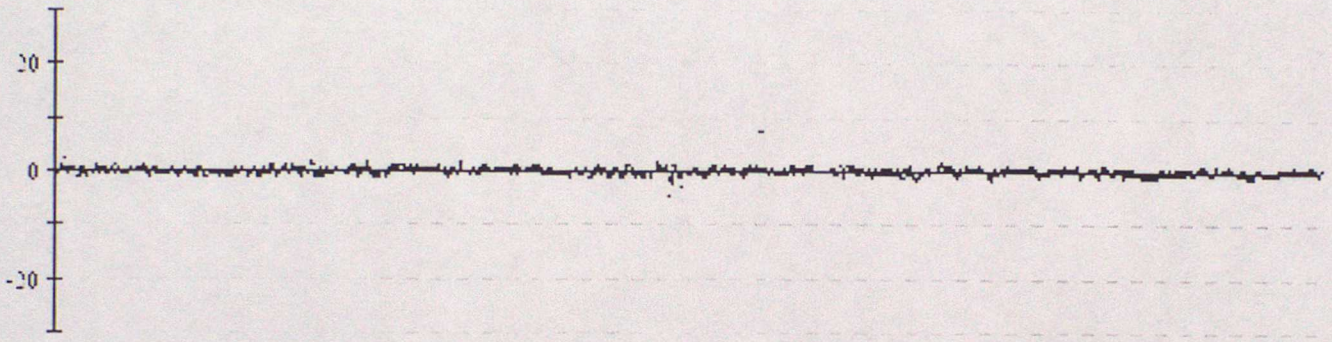


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

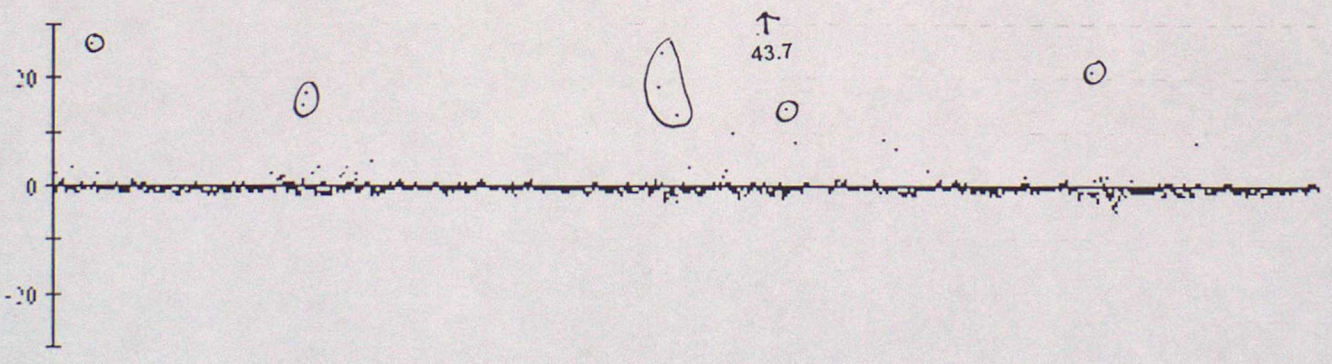
44624 Pressure



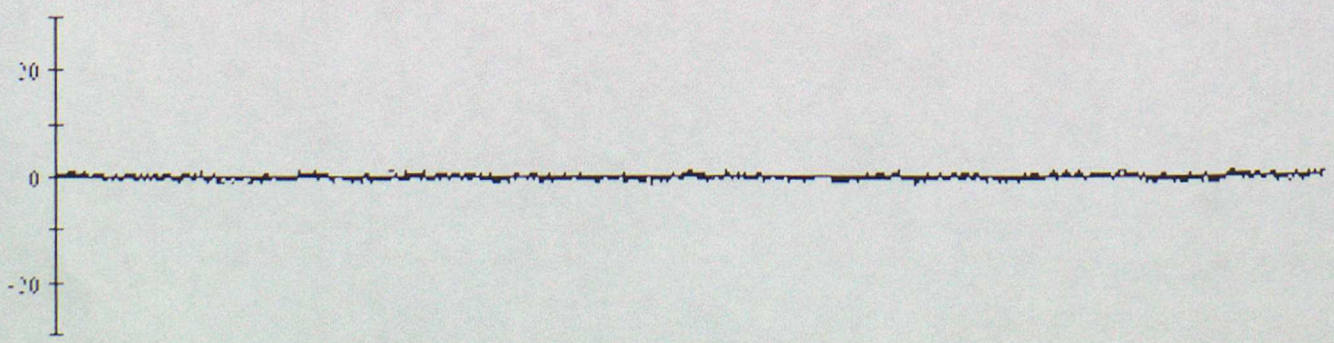
44625 Pressure



44627 Pressure

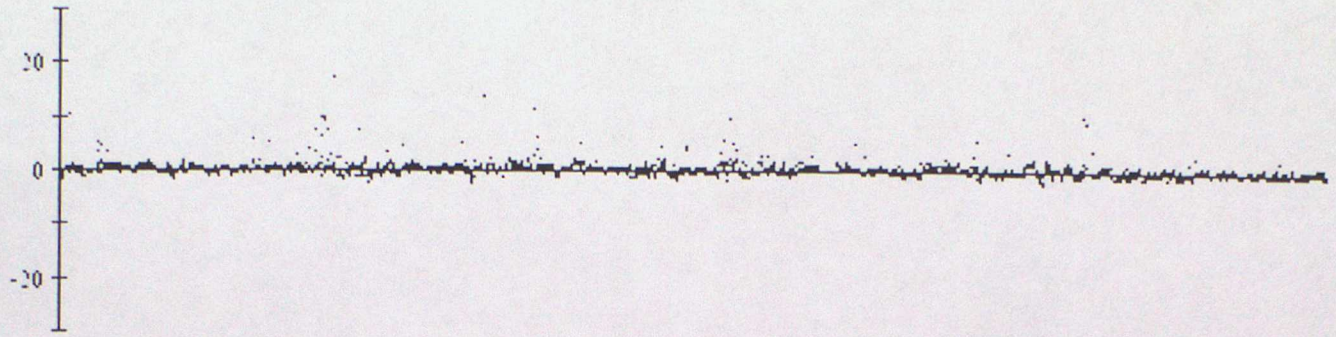


44721 Pressure

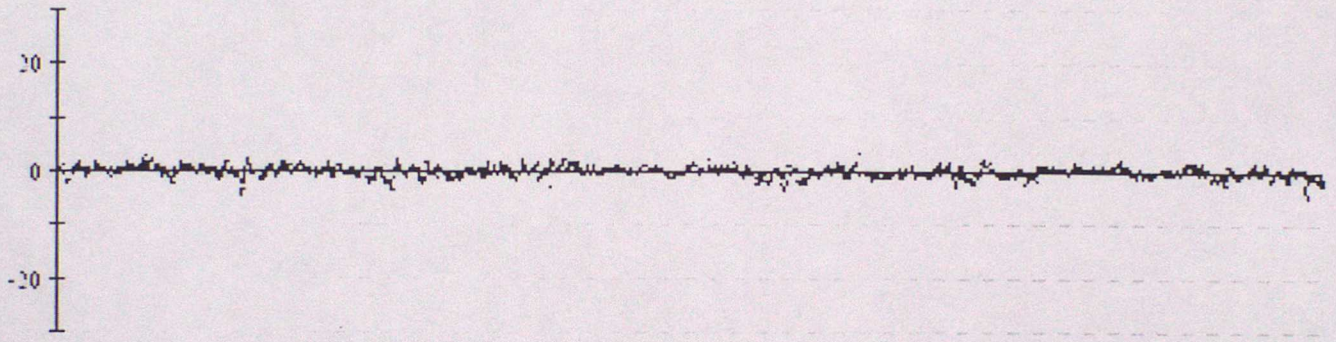


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

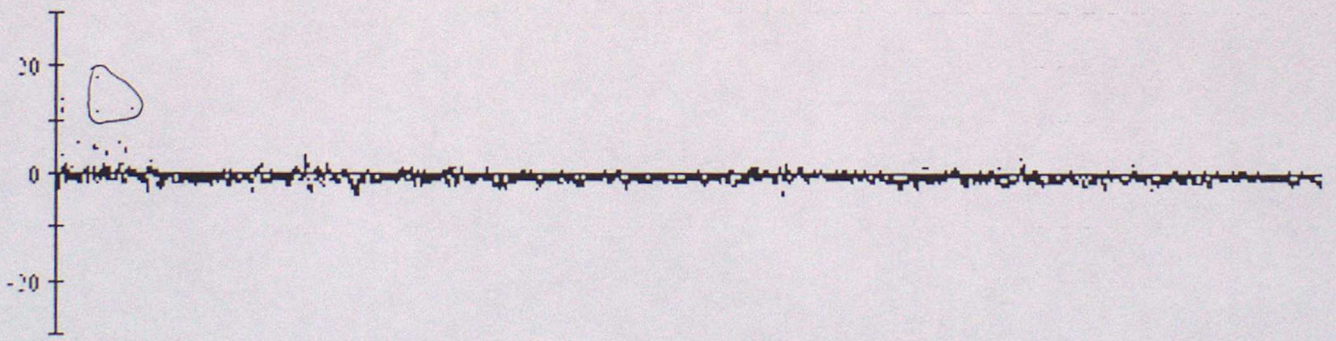
44723 Pressure



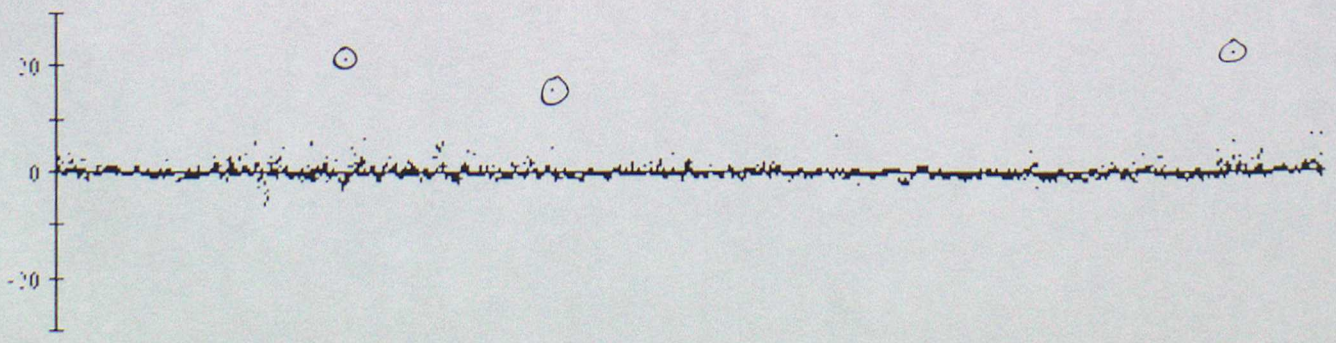
44726 Pressure



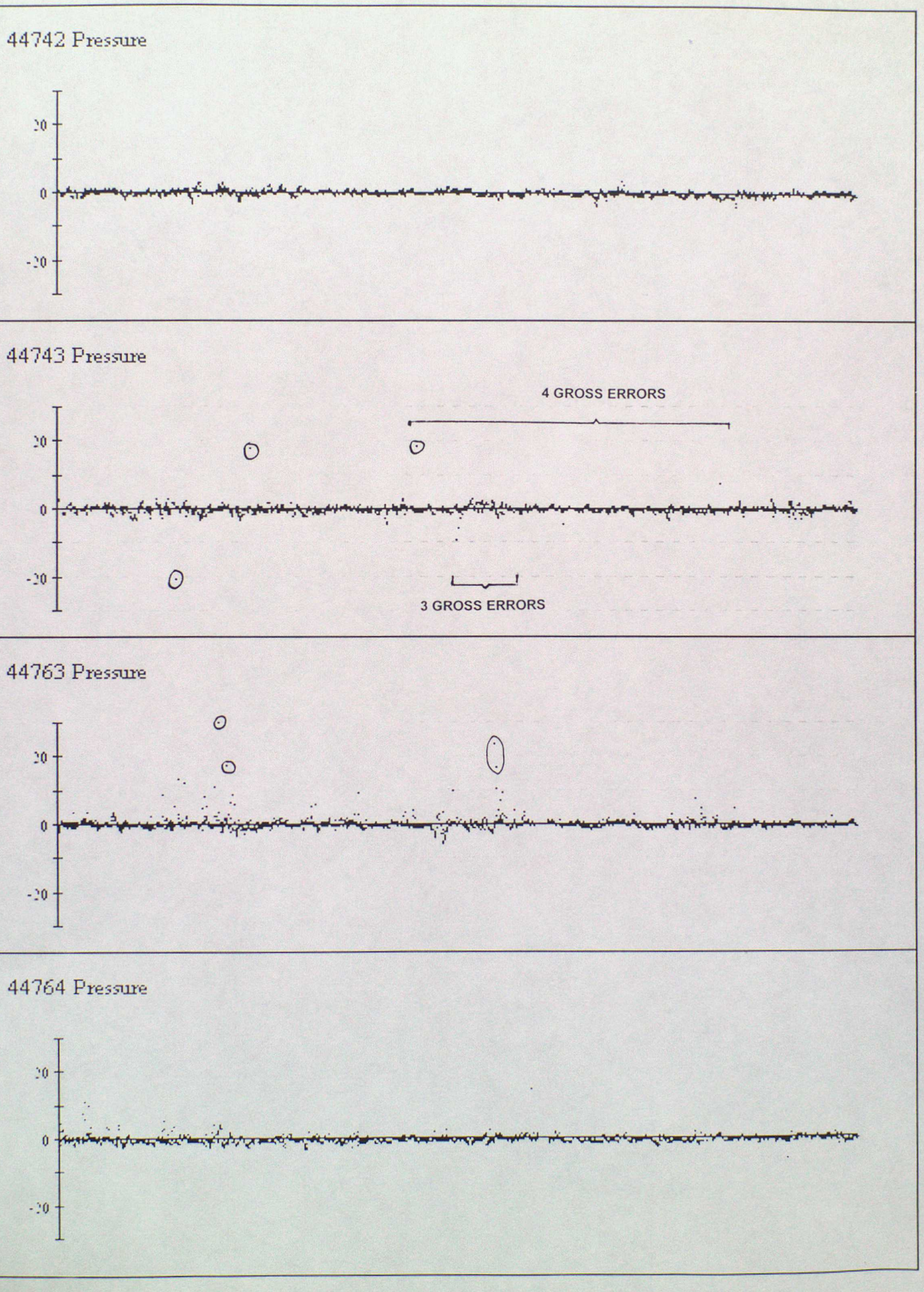
44728 Pressure



44730 Pressure

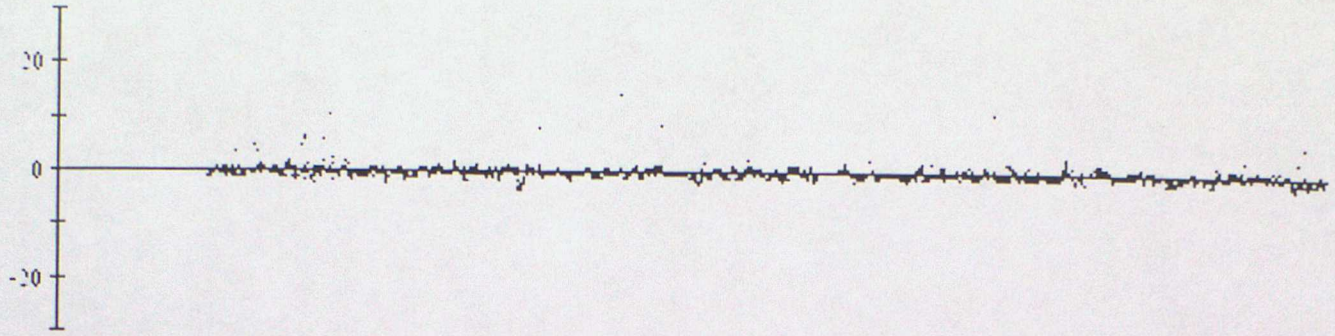


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

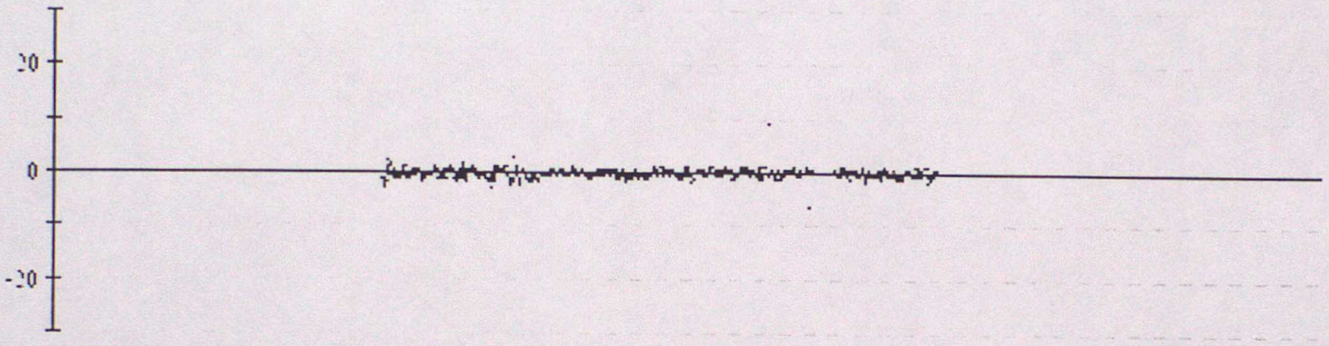


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

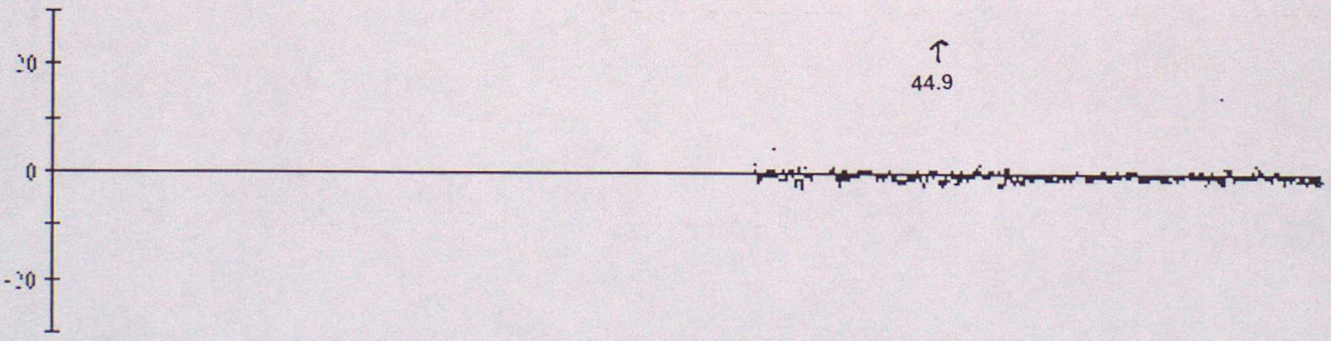
44767 Pressure



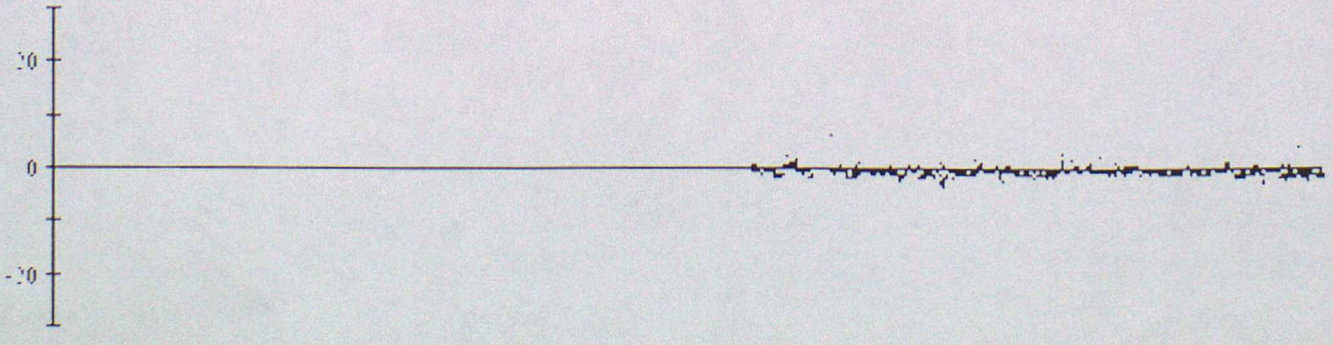
44768 Pressure



44769 Pressure

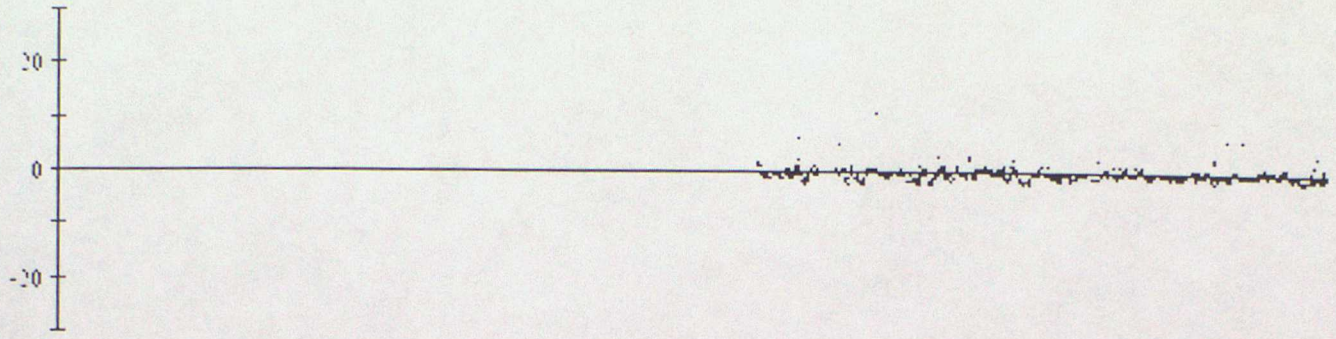


44770 Pressure

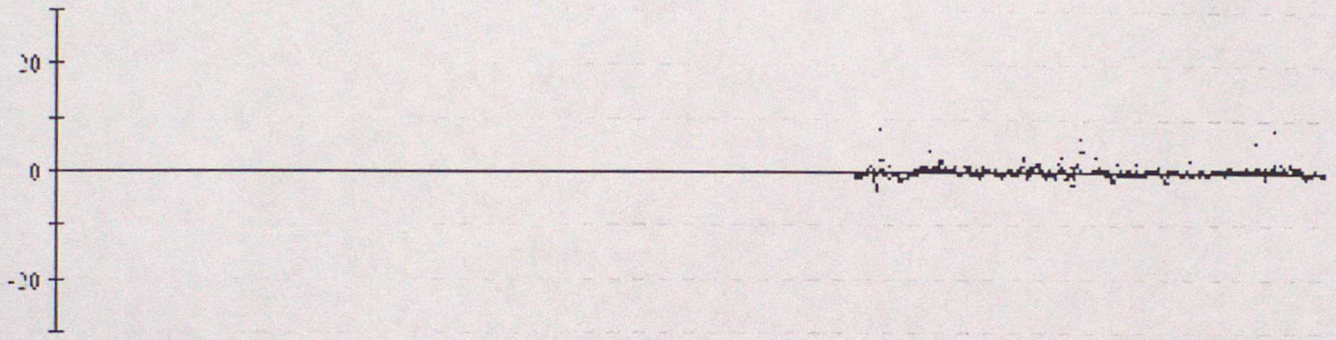


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

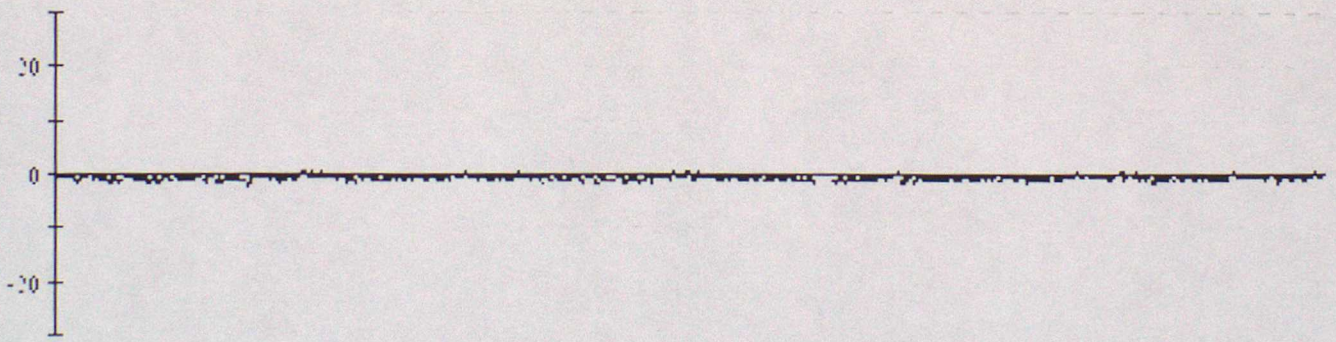
44772 Pressure



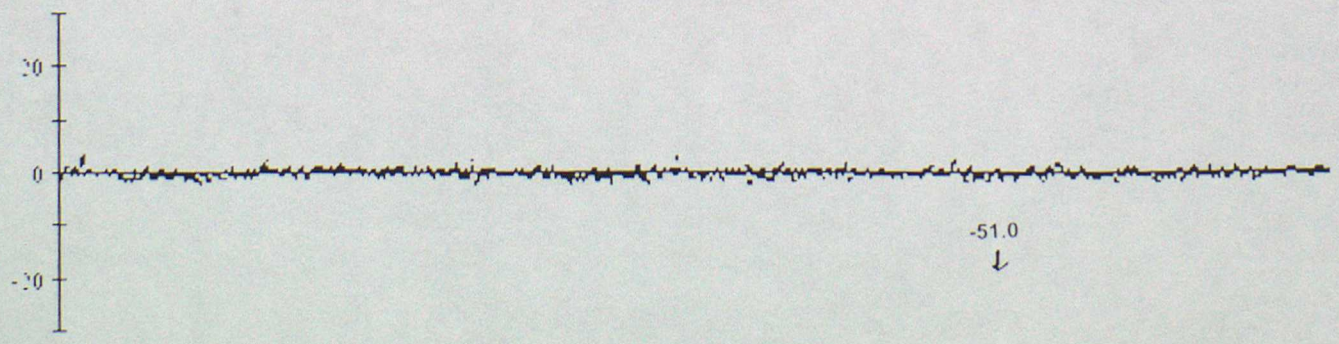
44773 Pressure



44775 Pressure

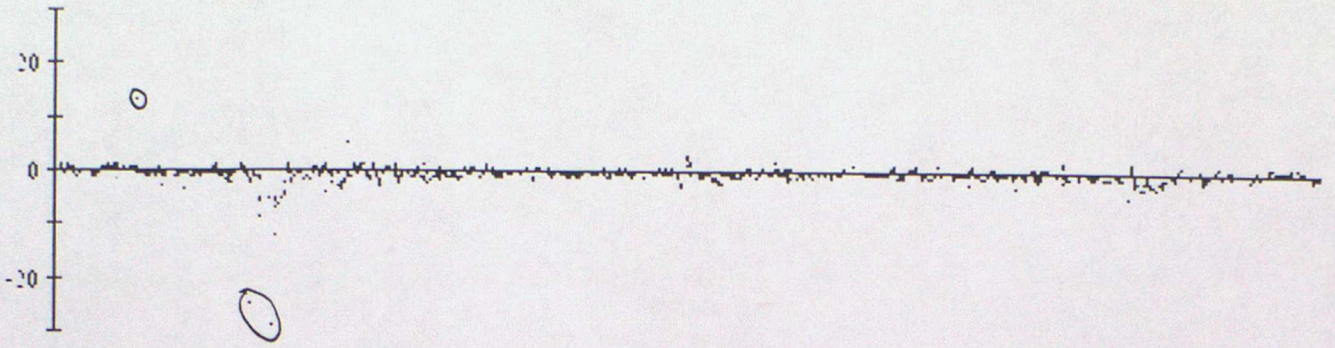


44778 Pressure

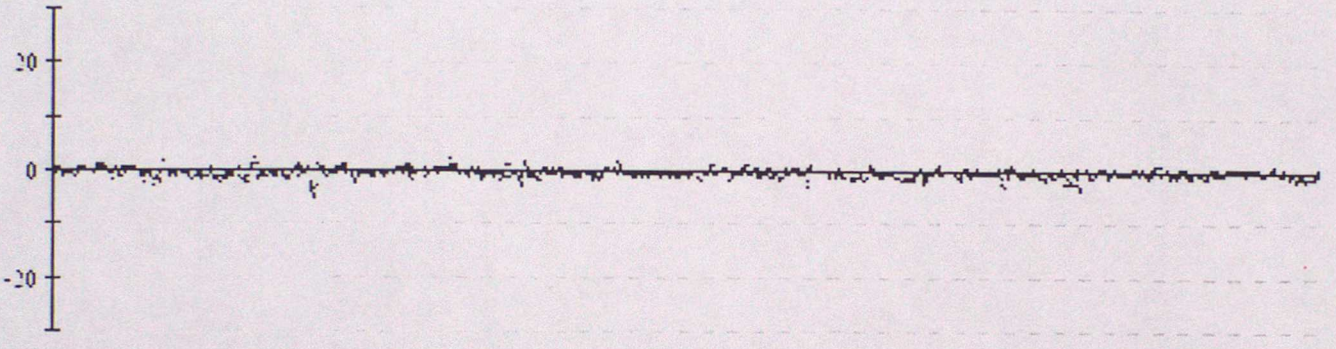


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

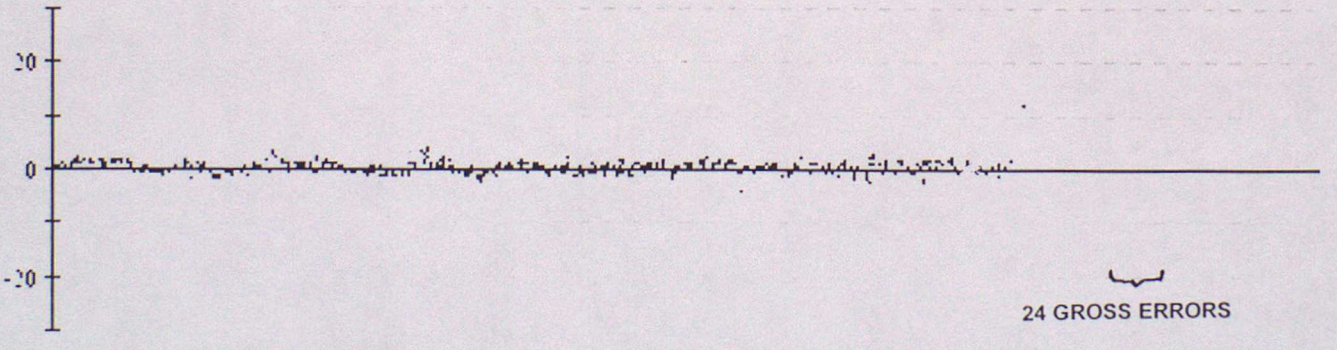
44779 Pressure



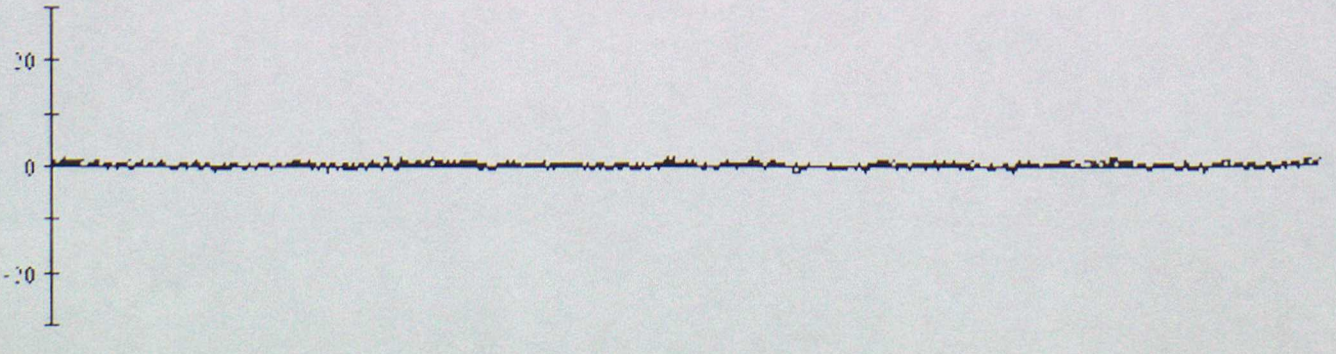
44780 Pressure



47556 Pressure

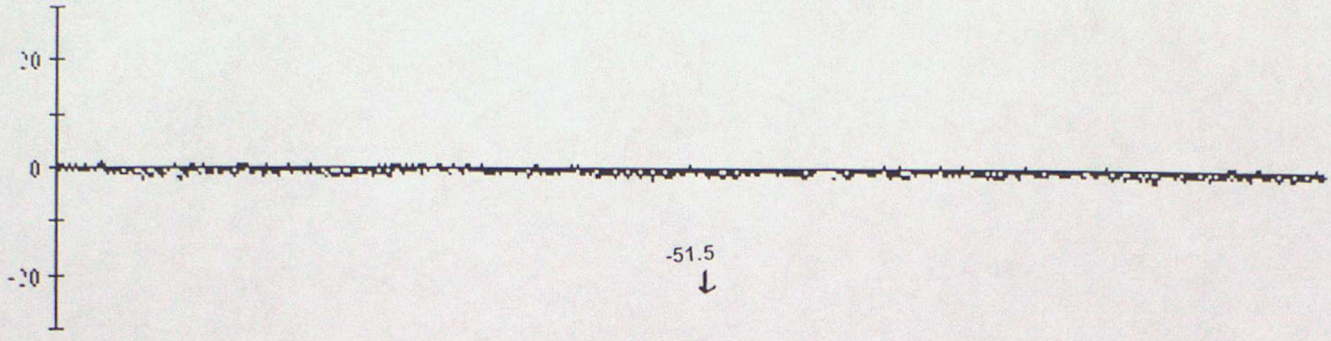


62501 Pressure

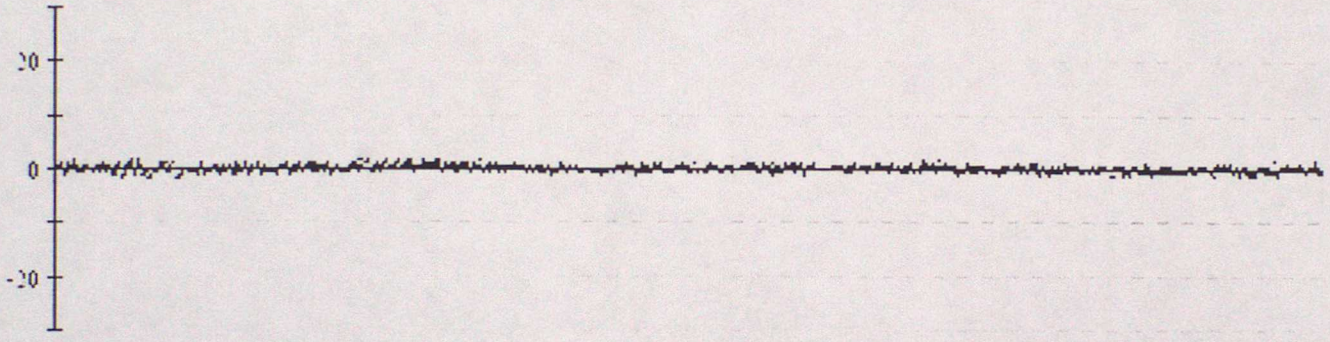


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

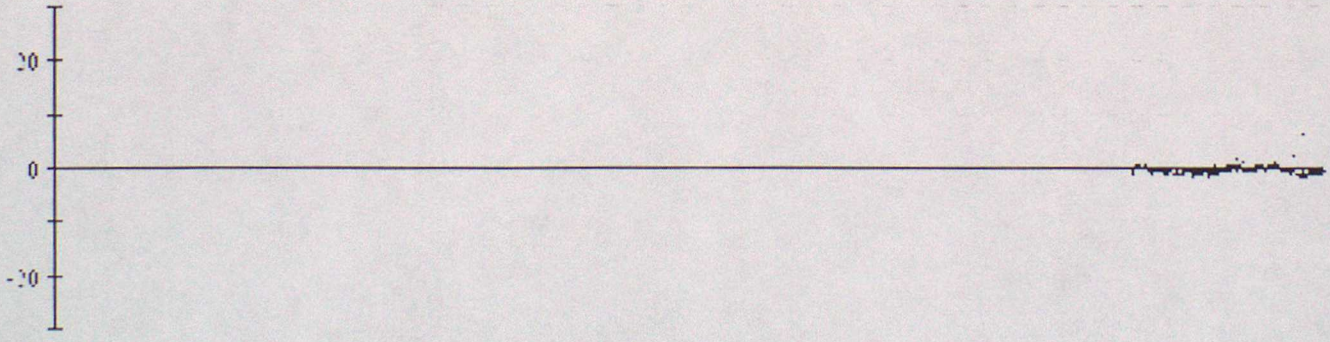
62503 Pressure



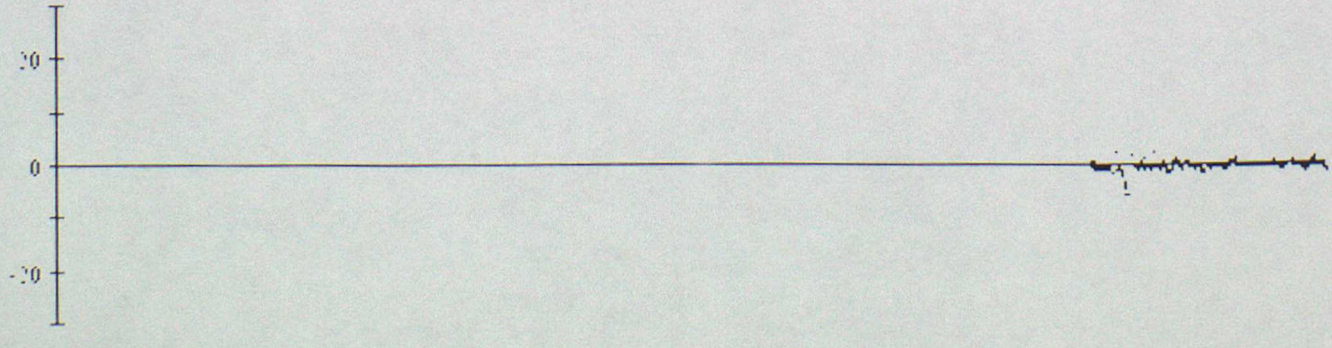
62504 Pressure



62505 Pressure

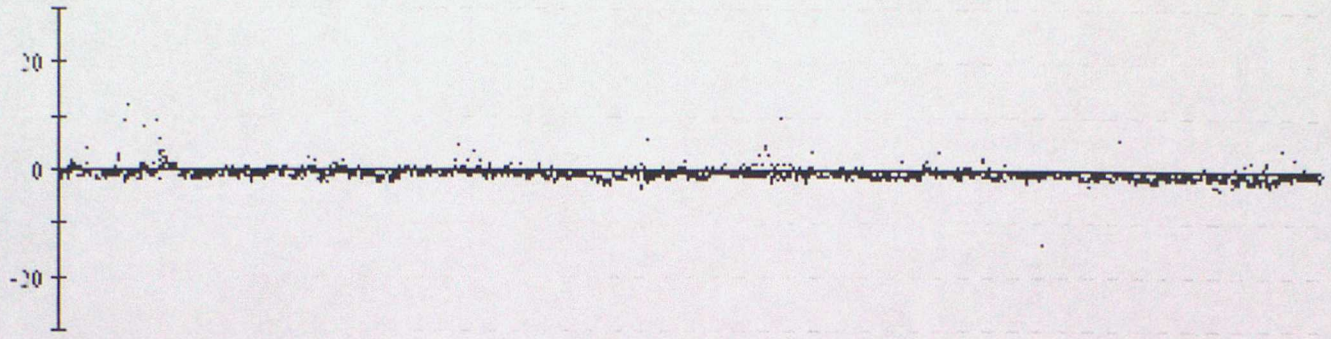


62507 Pressure

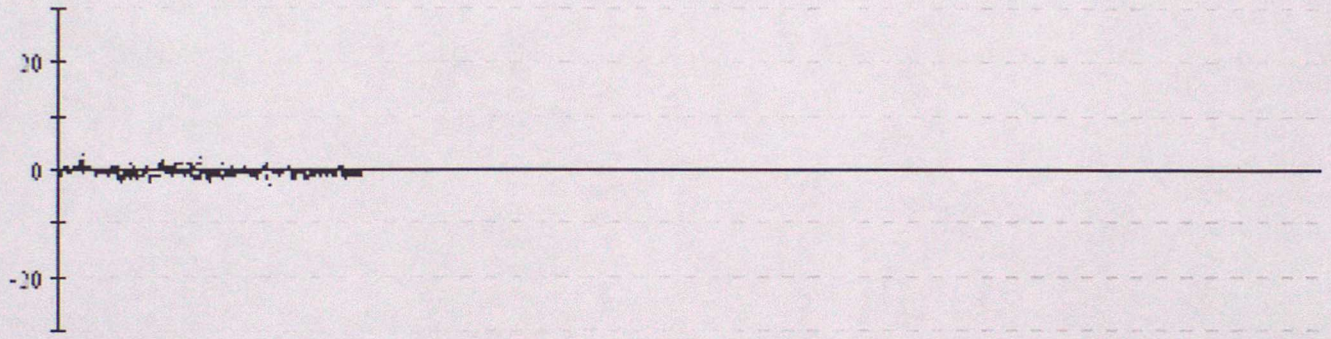


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

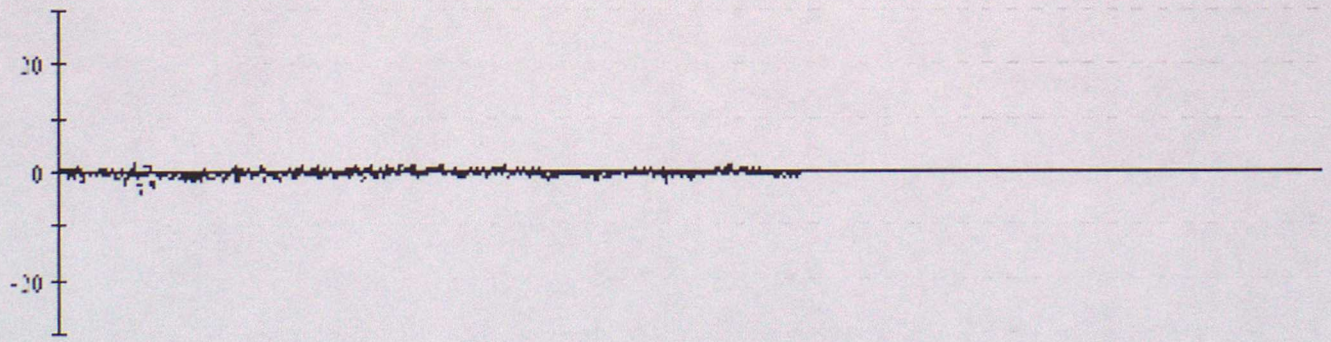
62512 Pressure



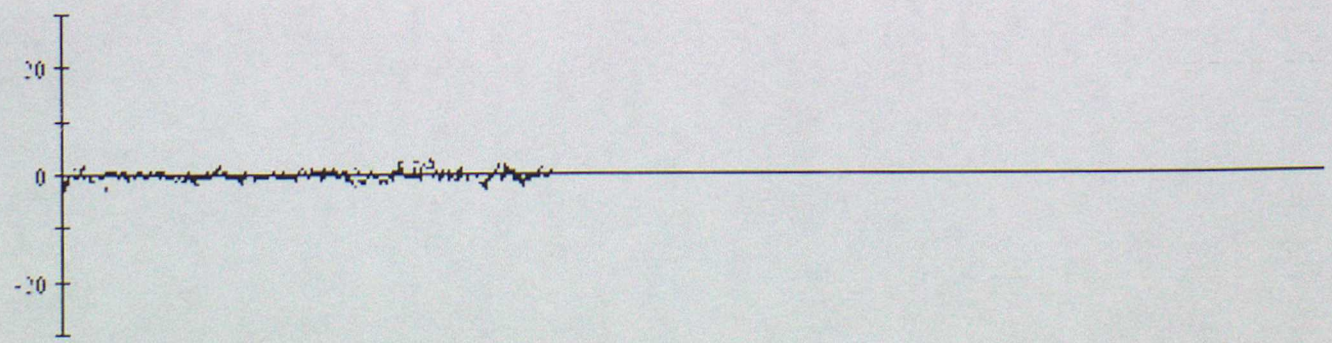
62516 Pressure



62518 Pressure

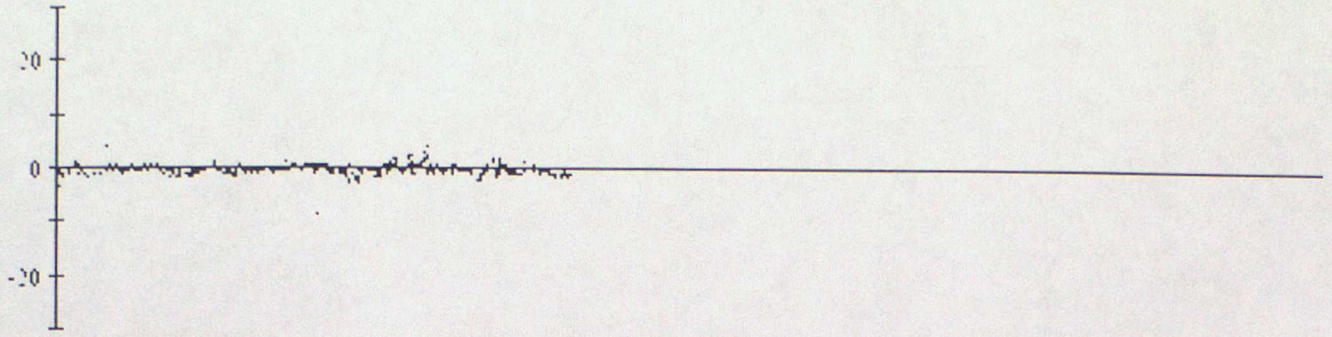


62520 Pressure

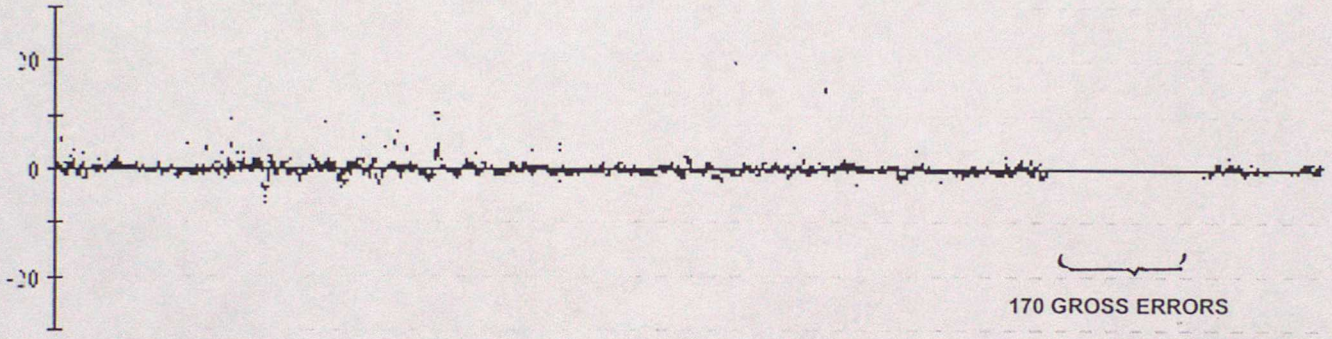


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

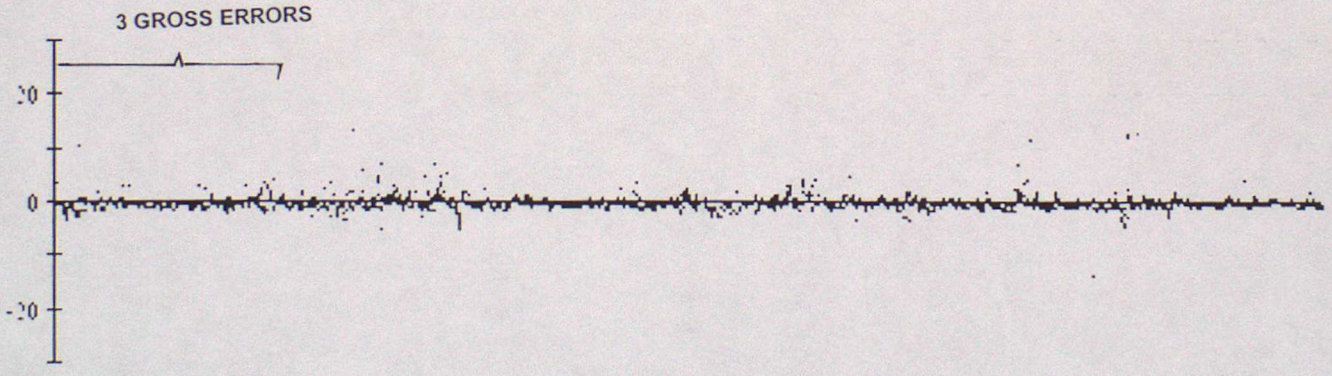
62598 Pressure



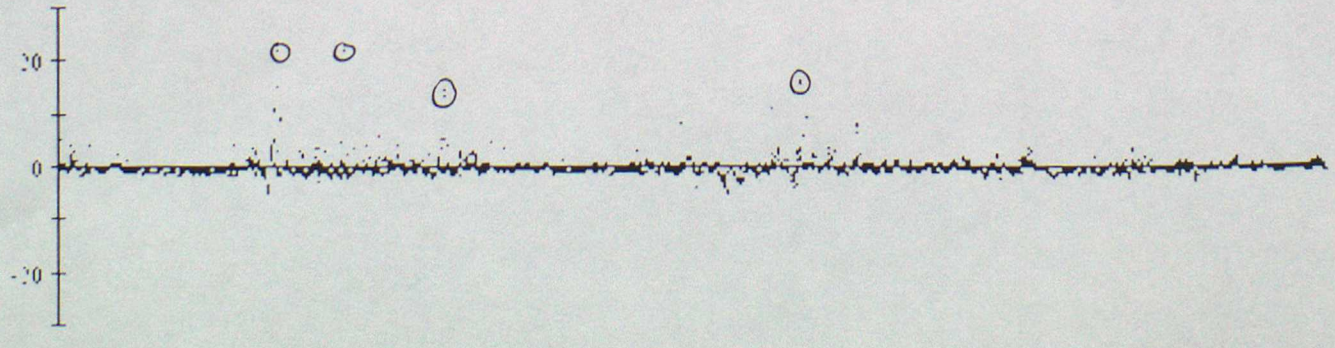
62694 Pressure



62696 Pressure

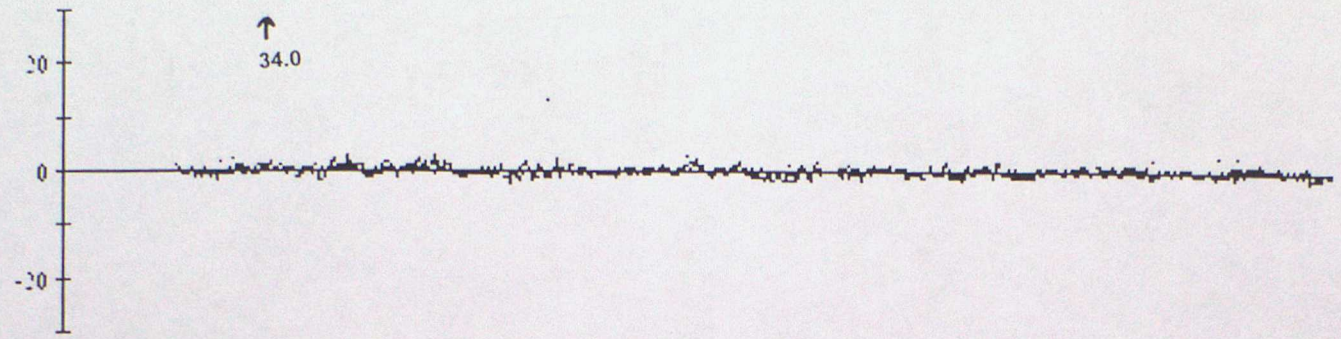


62697 Pressure

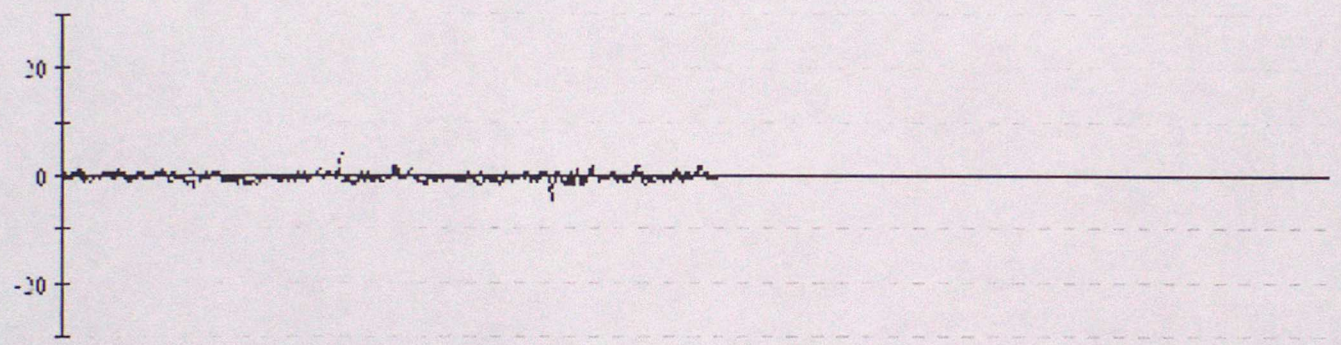


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

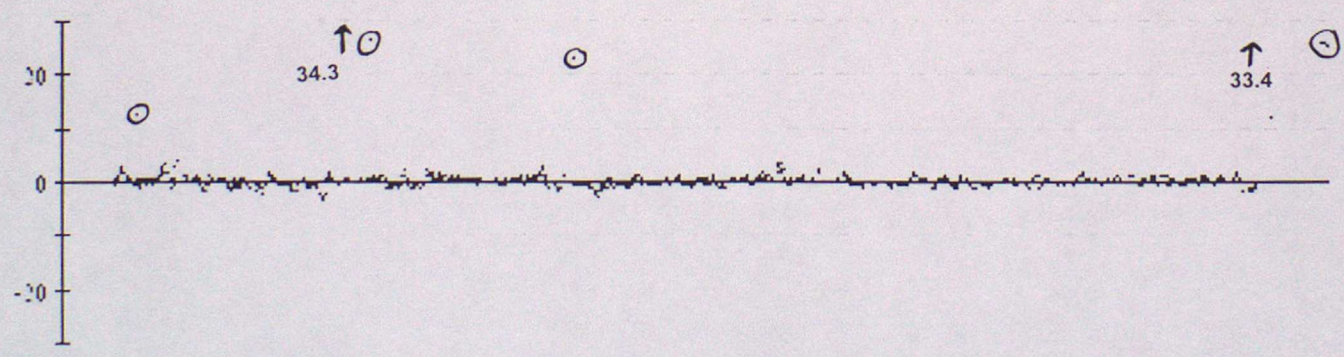
62711 Pressure



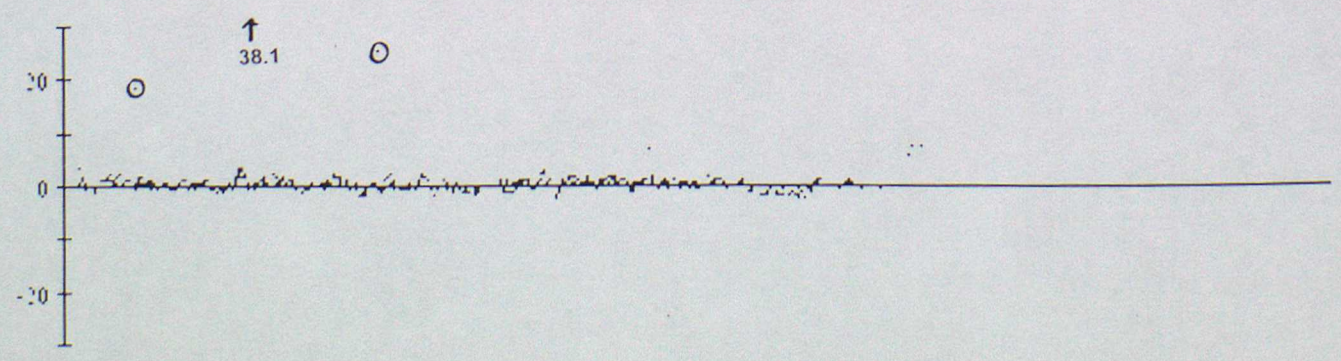
63536 Pressure



63662 Pressure

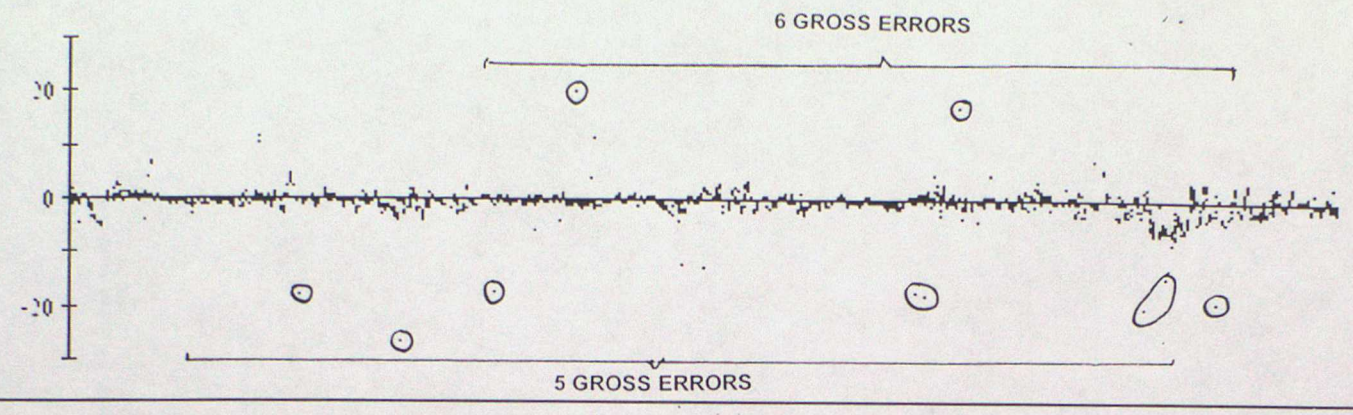


63663 Pressure

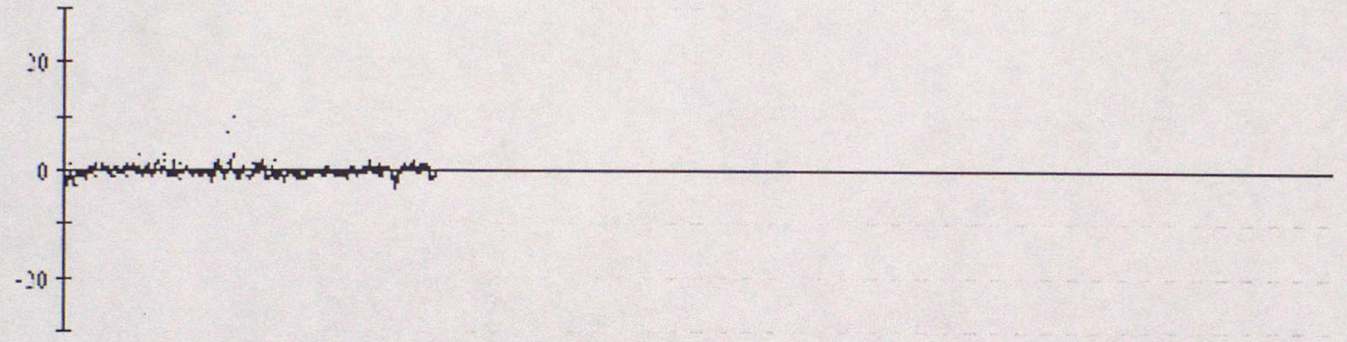


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

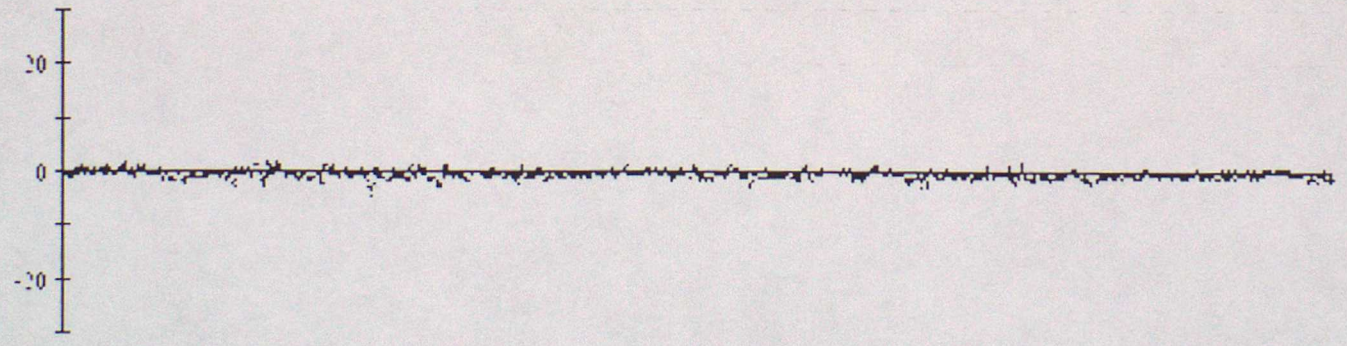
64549 Pressure



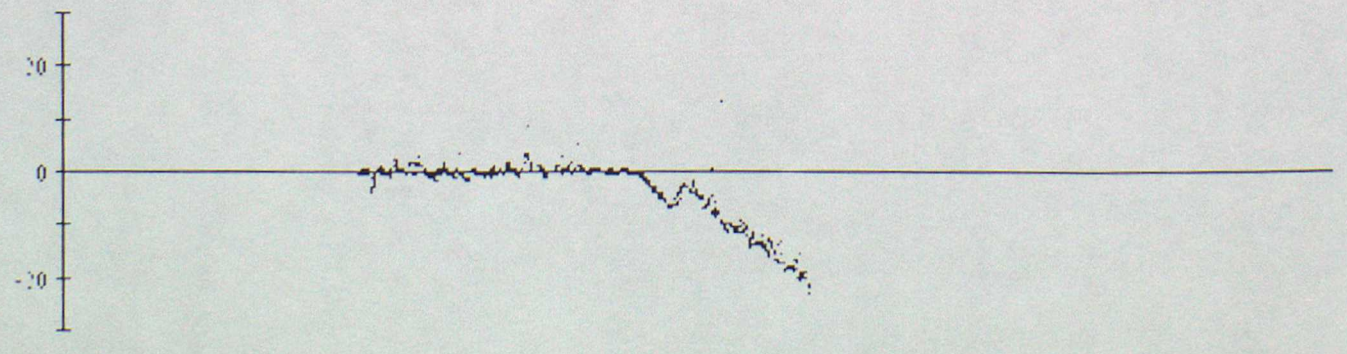
64552 Pressure



64553 Pressure



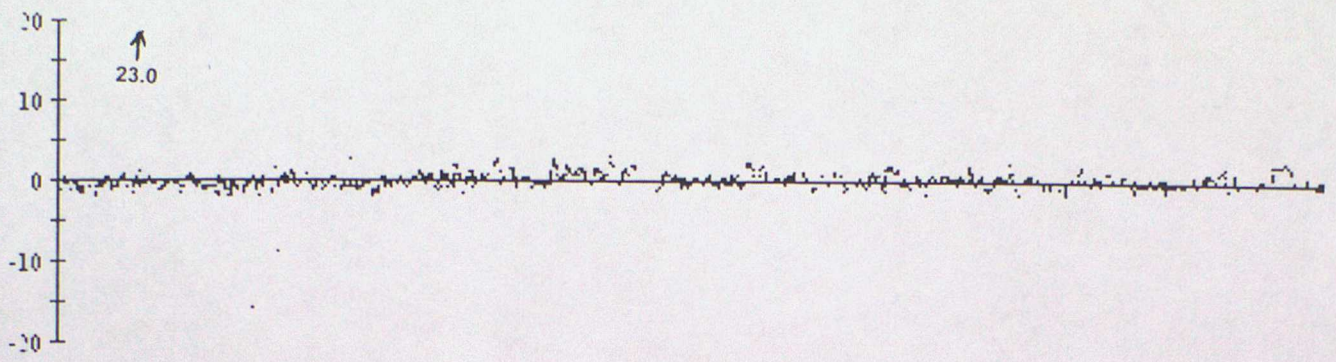
64560 Pressure



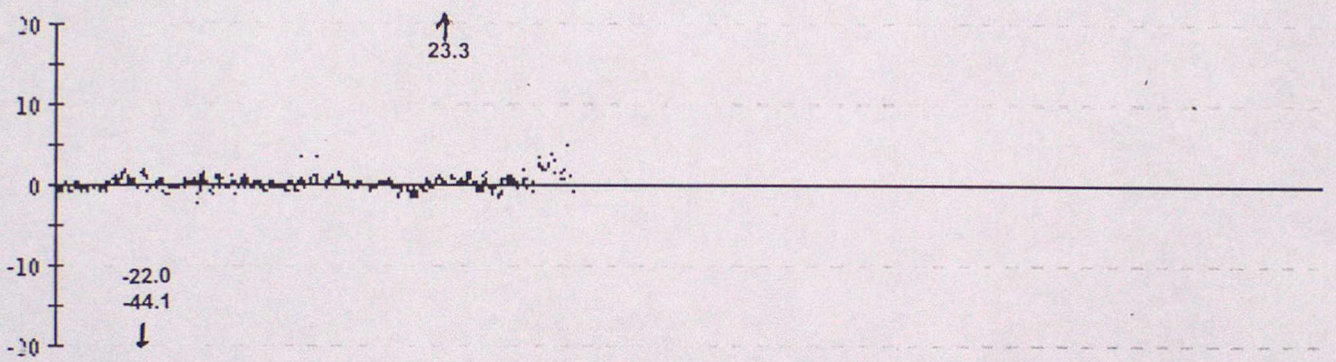
ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

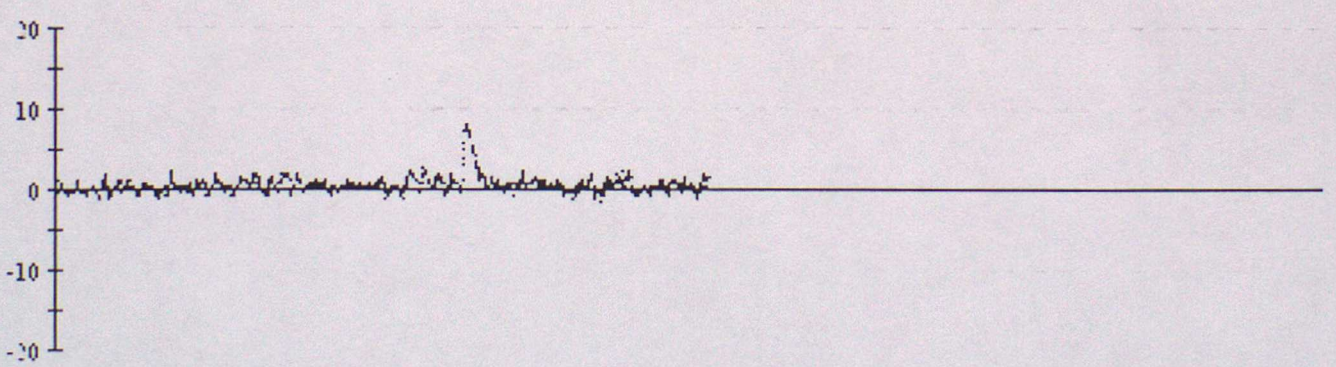
44779 Air Temperature



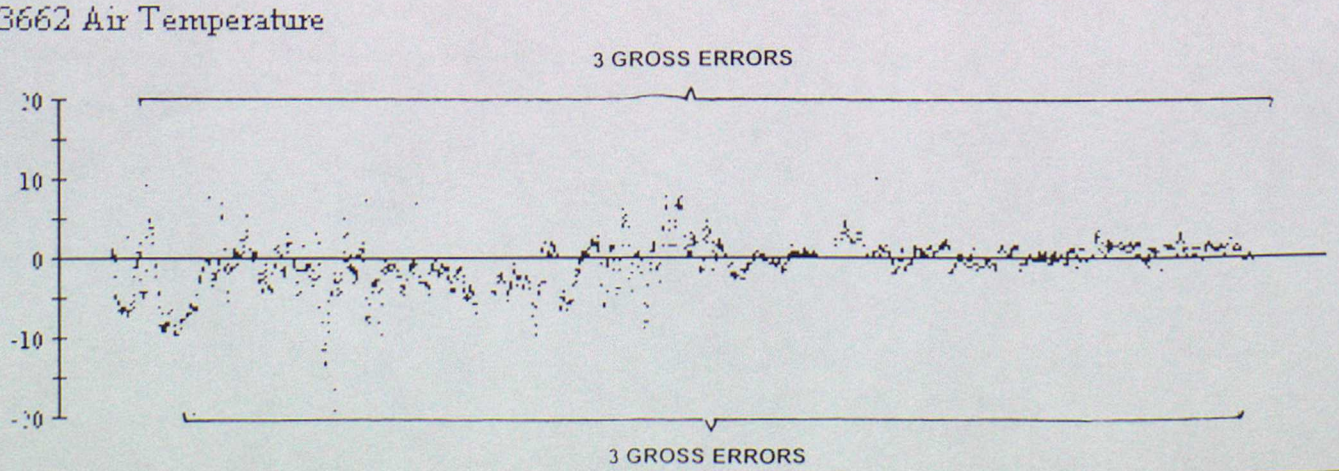
62598 Air Temperature



63536 Air Temperature

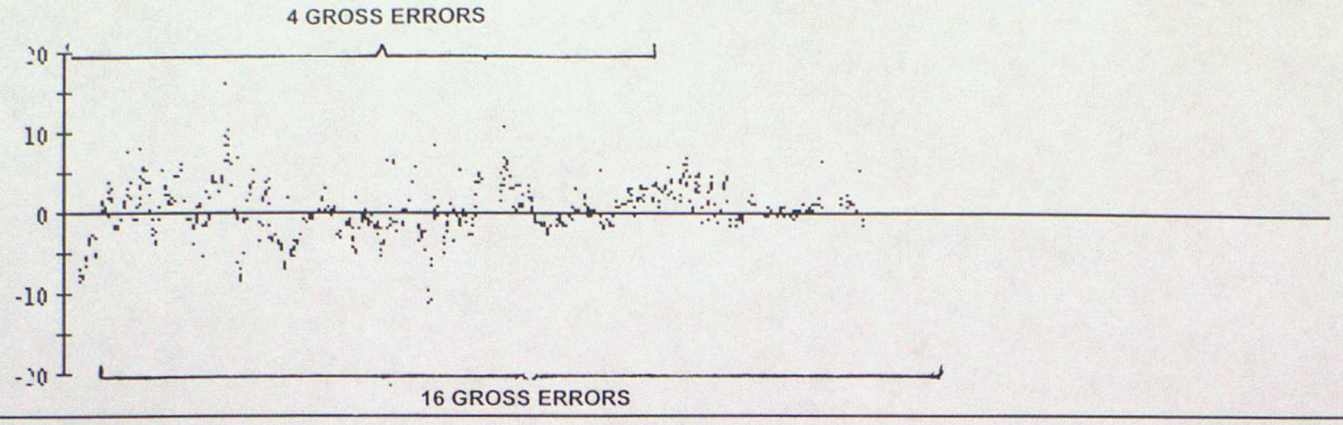


63662 Air Temperature

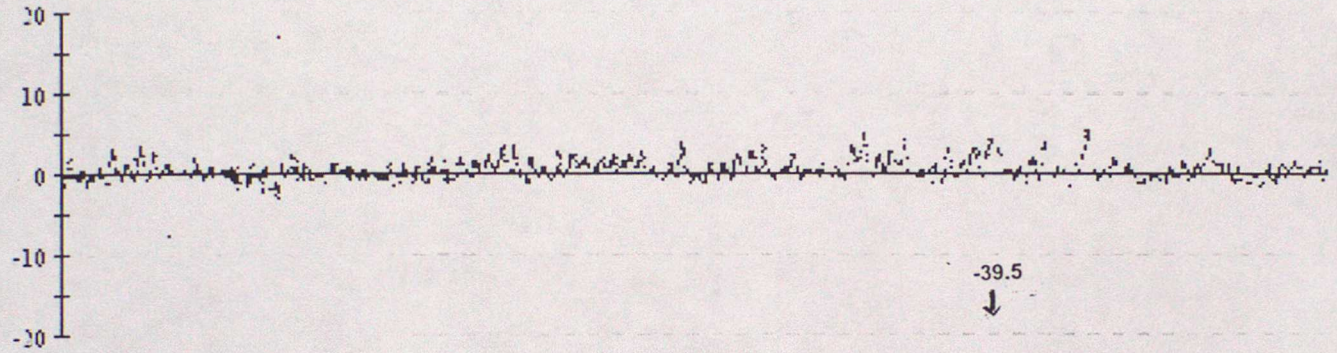


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

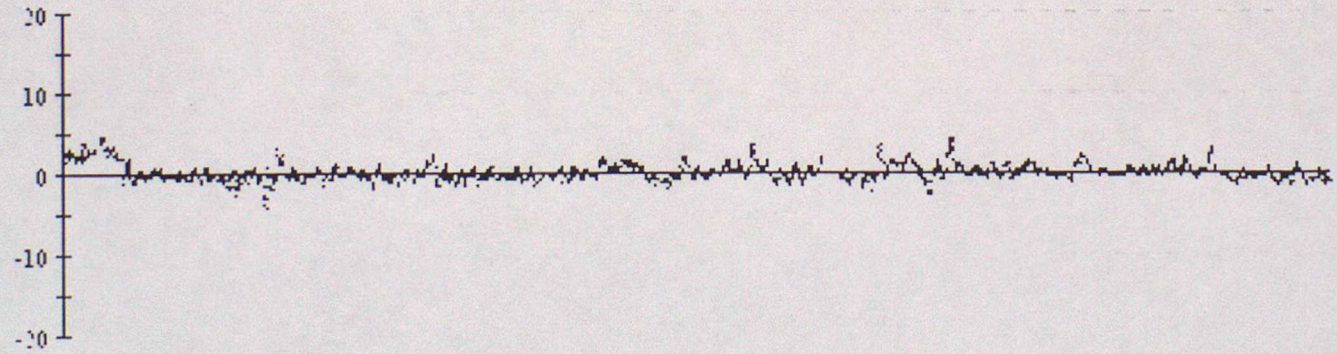
63663 Air Temperature



64549 Air Temperature



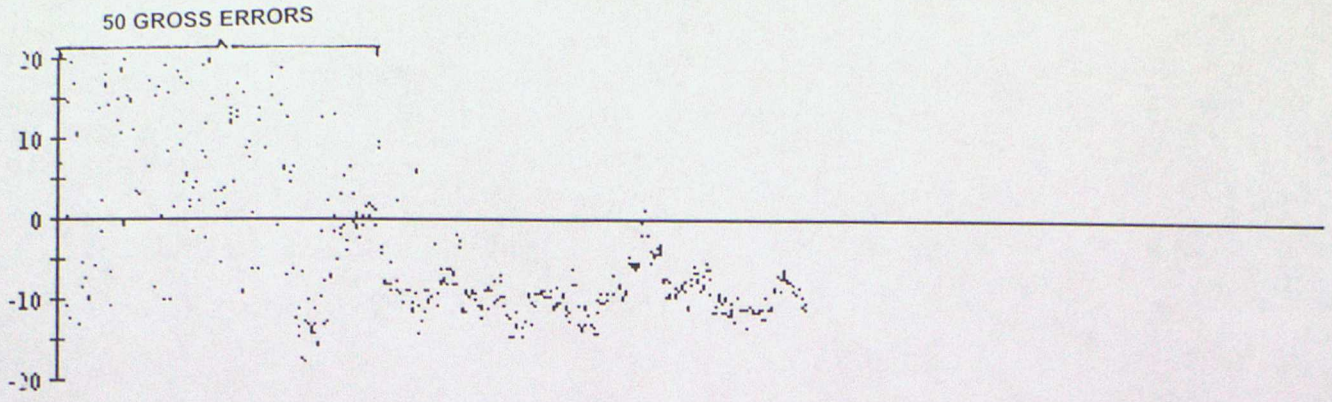
64553 Air Temperature



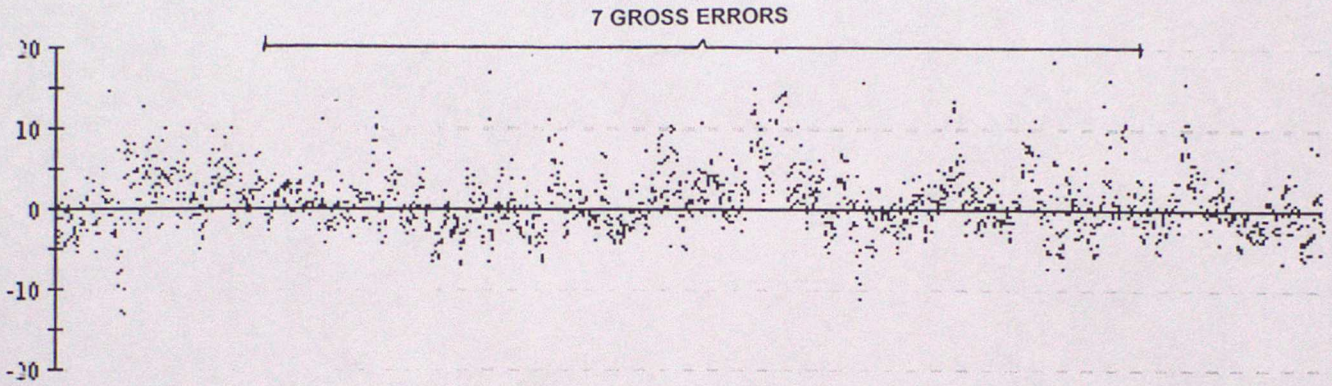
ANNEX D - TIME SERIES PLOTS OF WIND SPEED

Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

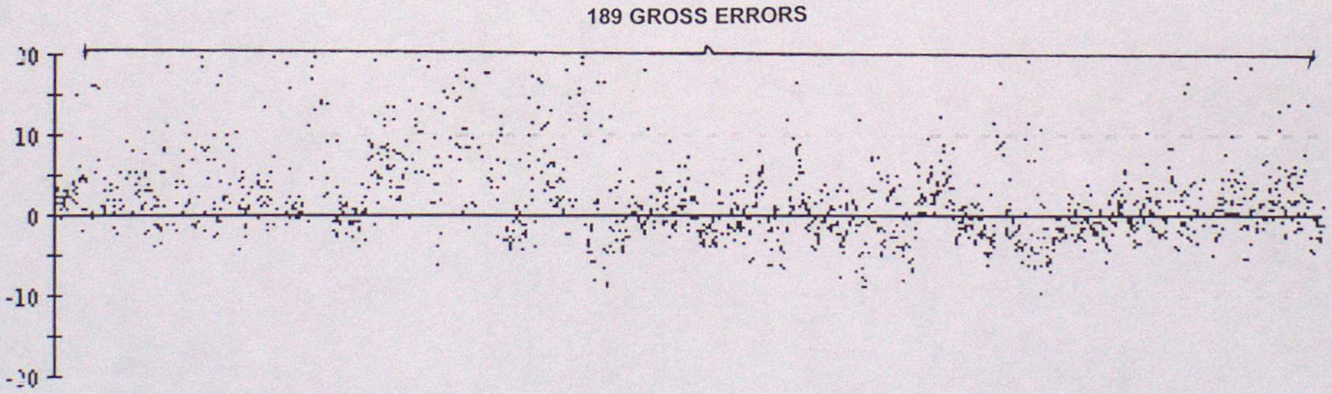
41523 Wind speed



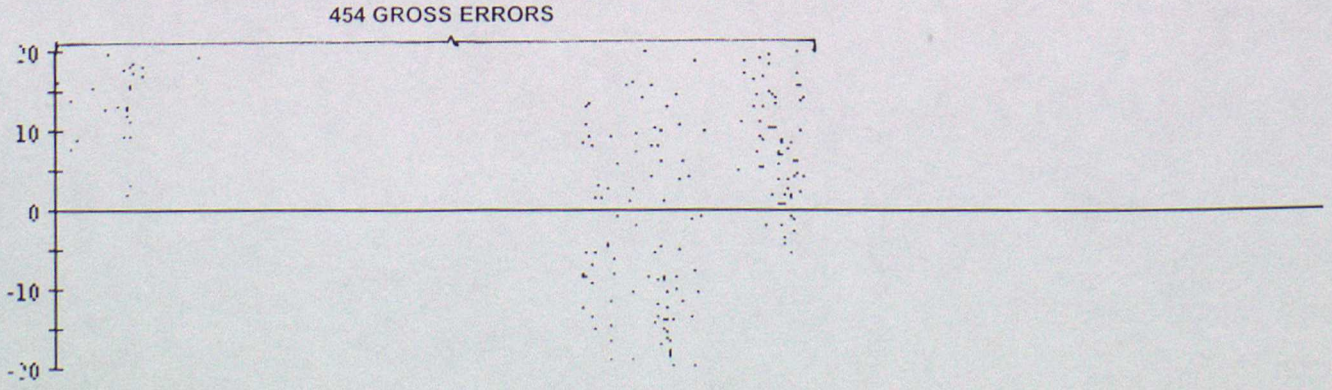
41647 Wind speed



41652 Wind speed

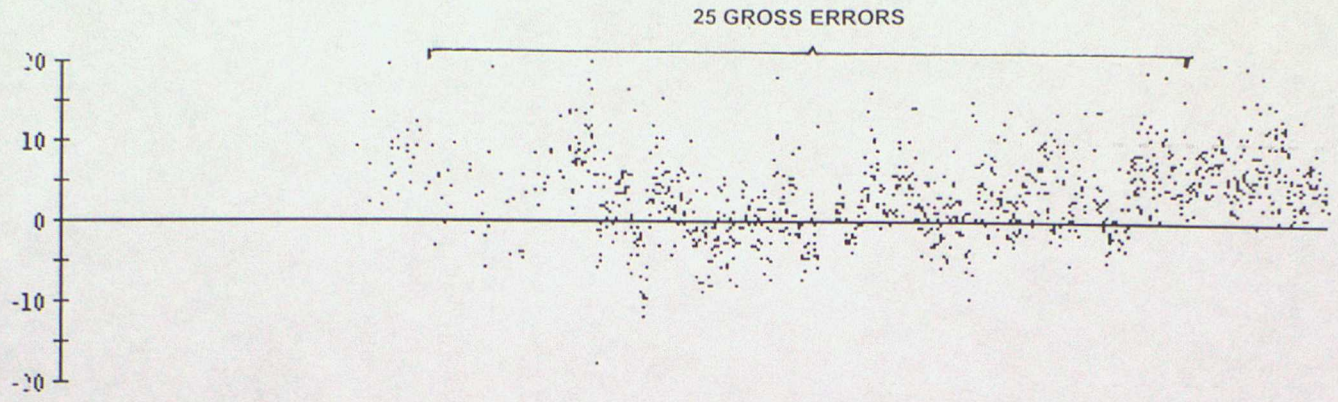


42533 Wind speed

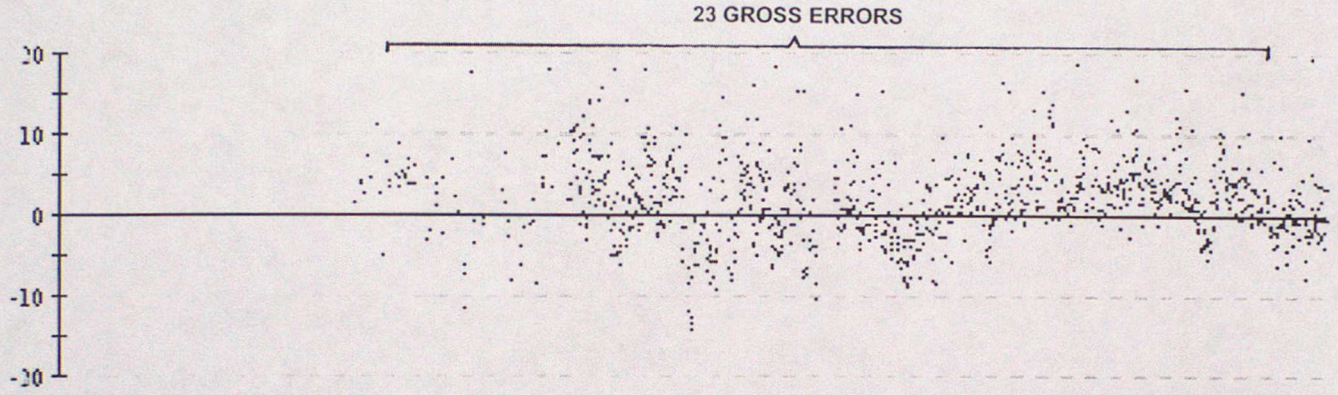


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

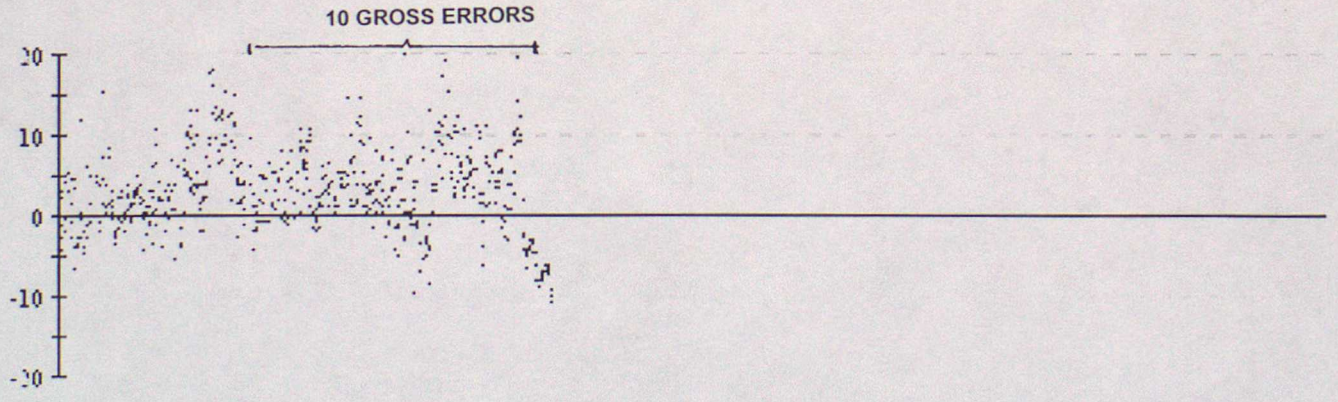
44601 Wind speed



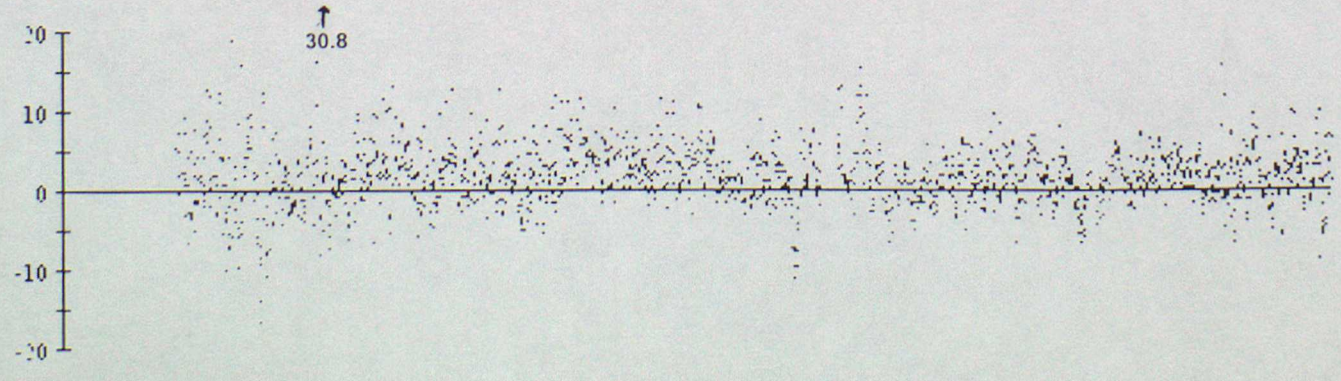
44602 Wind speed



62520 Wind speed



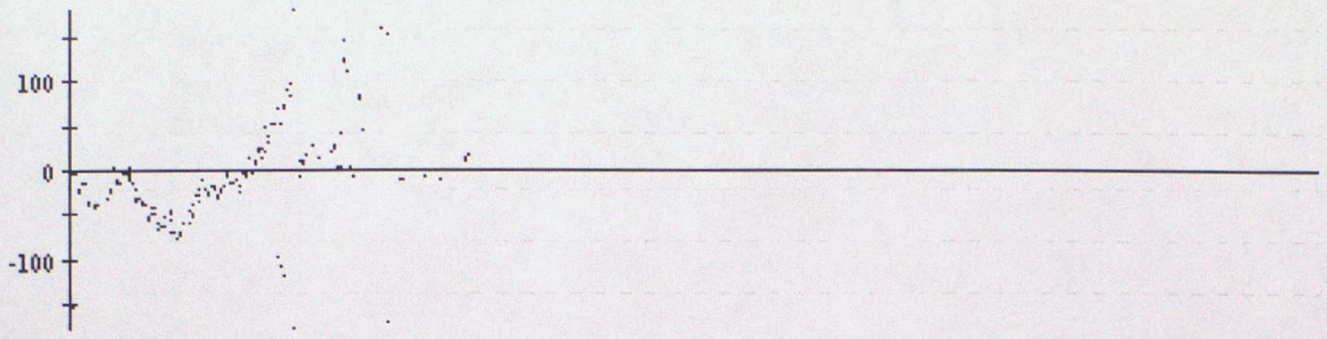
62711 Wind speed



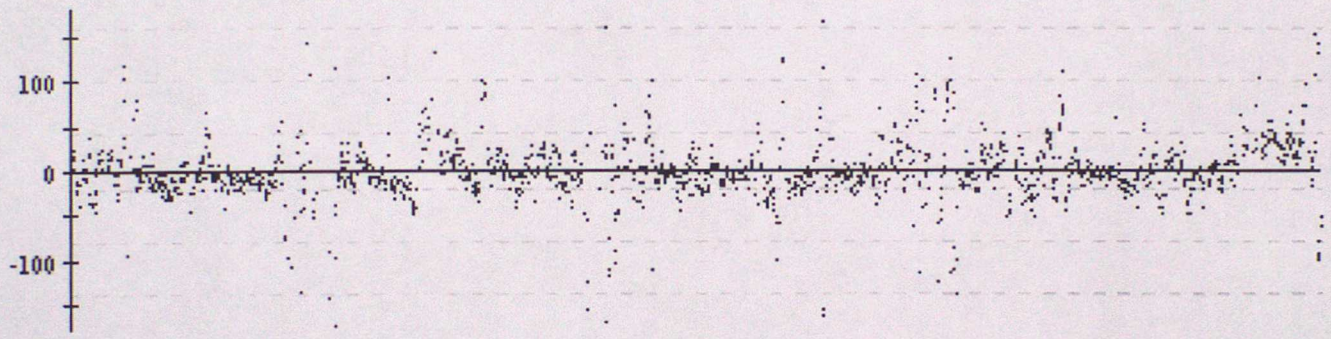
ANNEX E - TIME SERIES PLOTS OF WIND DIRECTION

Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

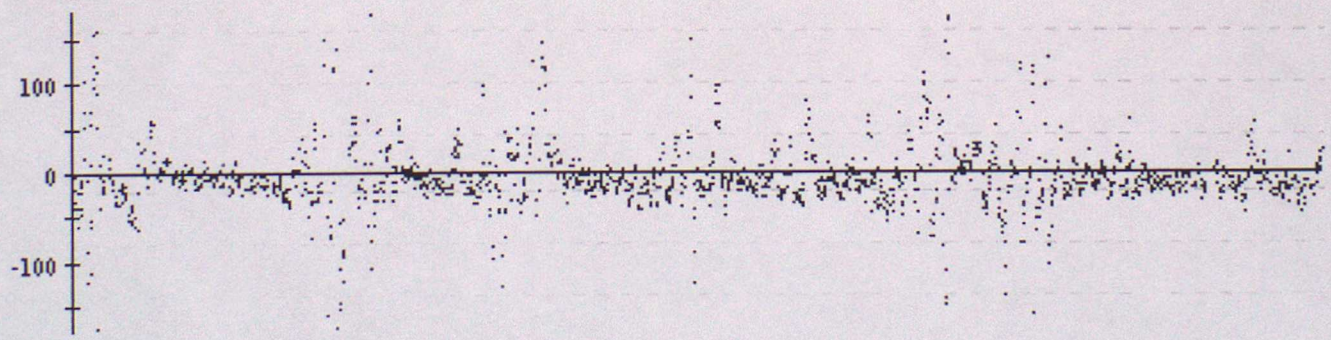
41523 Wind direction



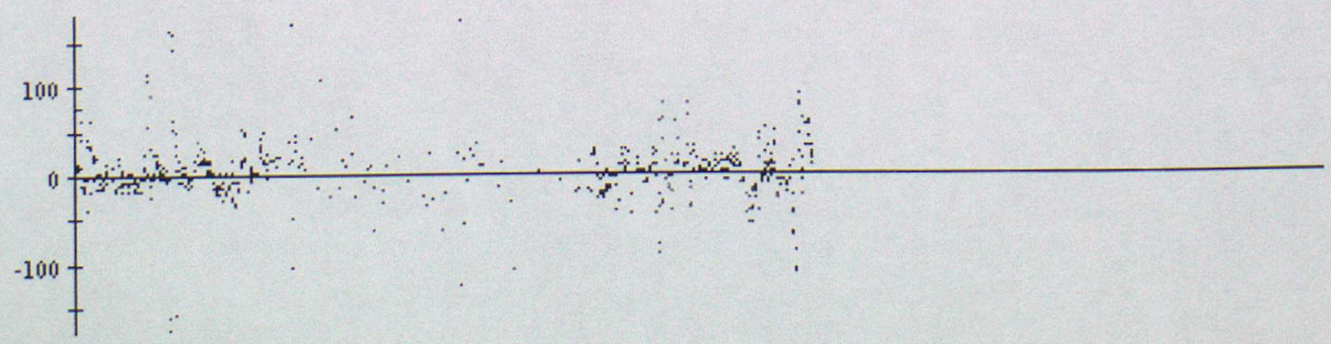
41647 Wind direction



41652 Wind direction

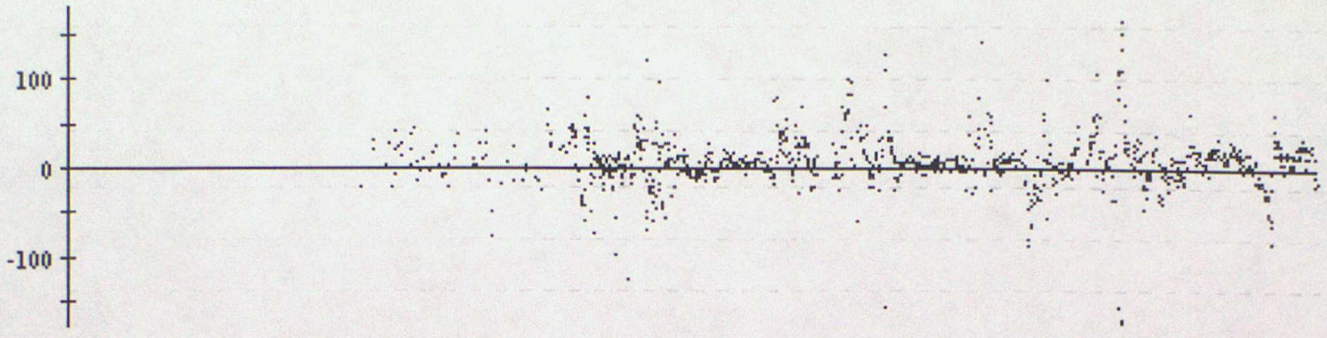


42533 Wind direction

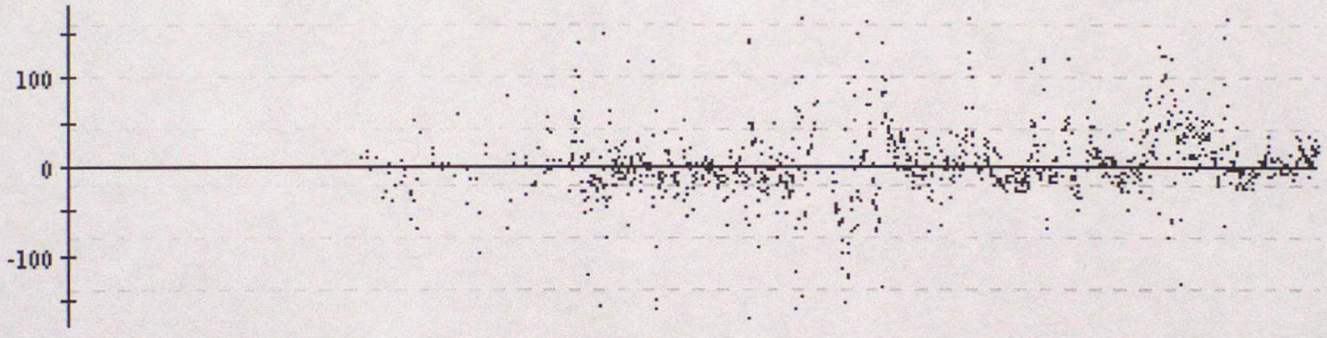


Data from 00z on 01/04/2002 to 23z on 30/06/2002 (OBS - Background field)

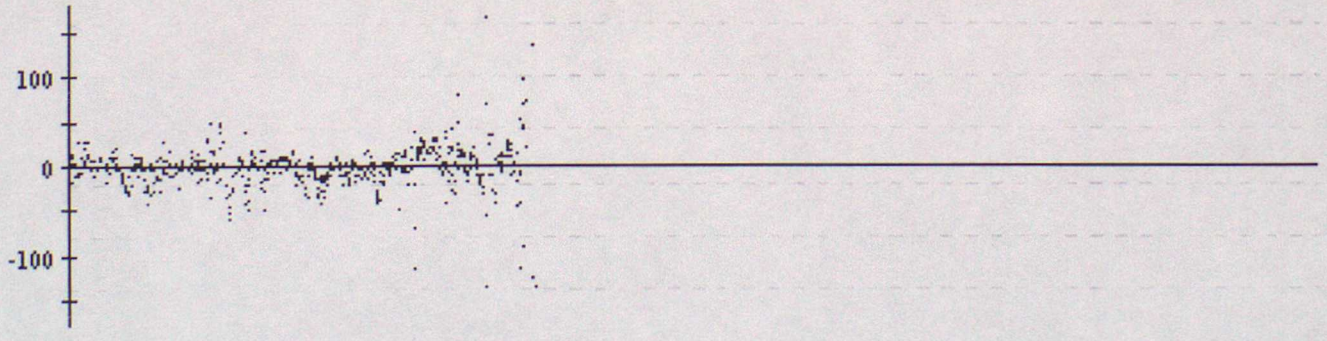
44601 Wind direction



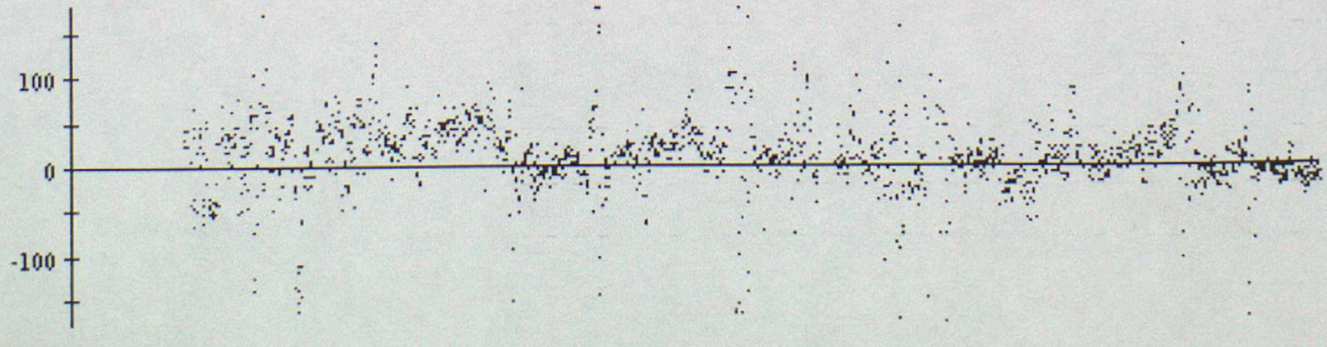
44602 Wind direction



62520 Wind direction



62711 Wind direction



ANNEX F - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
41523	28840	US	*			*	*	*	01/04 - 30/06
41579			*	*				*	19/05 - 30/06
41647			*	*		*	*	*	01/04 - 30/06
41650	7776	US	*	*				*	01/04 - 30/06
41652	7897	US	*	*		*	*	*	01/04 - 30/06
41657	27063	US	*	*					01/04 - 30/06
41658	27064	US	*	*				*	01/04 - 30/06
41659	27065	US	*	*				*	01/04 - 30/06
41665			*	*				*	19/05 - 30/06
41666			*	*				*	19/05 - 30/06
42533			*	*		*	*	*	01/04 - 30/06
44504			*	*				*	17/05 - 30/06
44517	28867	US	*	*				*	01/04 - 30/06
44549	22648	UK	*	*				*	01/04 - 30/06
44550	23703	UK	*	*				*	01/04 - 30/06
44601	32791	F	*	*		*	*	*	21/04 - 30/06
44602	32792	F	*	*		*	*	*	21/04 - 30/06
44612	27619	UK	*	*				*	01/04 - 29/06
44616	17149	UK	*	*				*	01/04 - 30/06
44621	17150	UK	*	*				*	01/04 - 30/06
44624	17151	UK	*	*				*	01/04 - 30/06
44625	17153	UK	*	*				*	01/04 - 30/06
44627	13698	NL	*	*				*	01/04 - 30/06
44721	18702	UK	*	*				*	01/04 - 30/06
44723	21562	UK	*	*				*	01/04 - 30/06
44726	23460	UK	*	*				*	01/04 - 30/06
44728	23553	UK	*	*					01/04 - 30/06
44730	23856	UK	*	*				*	01/04 - 30/06
44742	21667	UK	*	*				*	01/04 - 30/06
44743	4270	D	*	*					01/04 - 30/06
44763	17574	UK	*	*				*	01/04 - 30/06
44764	23913	UK	*	*				*	01/04 - 30/06
44767	16977	UK	*	*				*	11/04 - 30/06
44768	29755	NL	*	*				*	24/04 - 03/06
44769	13694	UK	*	*				*	20/05 - 30/06
44770	16976	UK	*	*				*	21/05 - 30/06

ANNEX F - CONT'd

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
44772	16978	UK	*	*				*	21/05 - 30/06
44773	21468	UK	*	*				*	28/05 - 30/06
44775	25372	UK	*	*				*	01/04 - 30/06
44778	25370	UK	*	*				*	01/04 - 30/06
44779	6669	D	*	*	*			*	01/04 - 30/06
44780	1153	IR	*	*					01/04 - 30/06
47556	1106	CA	*						01/04 - 18/06
62501	7139	F	*	*				*	01/04 - 30/06
62503	17926	F	*	*				*	01/04 - 30/06
62504	17928	F	*	*				*	01/04 - 30/06
62505	17188	F	*	*				*	17/06 - 30/06
62507	28695	F	*	*				*	13/06 - 30/06
62512	28692	F	*	*				*	01/04 - 30/06
62516	28696	F	*	*				*	01/04 - 22/04
62518	28697	F	*	*				*	01/04 - 24/05
62520	32783	F	*	*		*	*	*	01/04 - 06/05
62598	2294	N	*	*	*			*	01/04 - 08/05
62694	17577	UK	*	*					01/04 - 30/06
62696	18222	UK	*	*				*	01/04 - 30/06
62697	19894	UK	*	*				*	01/04 - 30/06
62711	21375	UK	*	*		*	*	*	08/04 - 30/06
63536	3679	N	*	*	*			*	01/04 - 17/05
63662			*		*				04/04 - 30/06
63663	9359	D	*		*				01/04 - 01/06
64549	3678	N	*	*	*			*	01/04 - 30/06
64552	21104	UK	*	*				*	01/04 - 27/04
64553	3038	IR	*	*	*			*	01/04 - 30/06
64560	29753	NL	*	*				*	22/04 - 24/05